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The Mediaeval Castle at Savonlinna

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FINLAND--THE REPUBLIC FARTHEST NORTH

The Response of Finnish Life to Its Geographic Environment

By
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PREFACE

That man shows a physical and mental response to his natural environment is an old conception. Hippocrates of Greece, born in 471 B.C., called attention to the effect of climate upon variations in population and assigned climatic differences as the reason for the vigor of the Europeans in contrast with the languor of the southwestern Asiatics; Strabo, 63 B.C., pointed to the mountain environment as a factor in encouraging banditry and called attention to the prosperity of peoples occupying the plains. Investigators and observers throughout historic times have made note of the part played by nature in the shaping of man's activities. However, it remained for scientists of the modern period to organize the observations into a rational system. For the first treatise in this field we are indebted to Karl Ritter (1779-1859), one of the greatest of German geographers. Ratzel (1844-1904) contributed further to the field of anthropogeography and laid down its principles. Since the publication of Ratzel's two-volume Völkerkunde in 1894-5, Semple, Brunhes, Vidal de la Blache, and other geographers, as well as historians, sociologists, and anthropologists have helped to strengthen the foundation upon which the principles have been laid.

Since the establishment of geographic principles and theories of environmental influences, no one has attempted to apply them to the development of a single group of people from a primitive unorganized state into a modern political entity. Many of the principles have been demonstrated as applicable in particular instances at a particular time, but no records are available which demonstrate the persistence of the influence of the natural environment throughout the history of any nation; neither have we studies which show the juxtaposition of the geographic and non-geographic elements in a specific case over a long period of time.

The opportunity to begin an investigation into the responses of a single group of people to its physical environment was afforded when, in 1911, I became a resident of Duluth, Minnesota. There my attention was attracted by the large number of Finnish settlers. Reference to the U. S. Census reports revealed a concentration of Finns in the Puget Sound Region, in the Lake Superior District, and in New England. After a cursory investigation into the causes for this distribution, I commenced an intensive field study in 1915, subsequently continued intermittently over a three-year period. The results were published in 1918 by the American Geographical Society. In 1922 field work was extended to New England. Both of these studies showed conclusively that the Finns had settled in the respective regions because of the physical similarity to the home country and that they continued to respond to this type of environment in the same way as they had at home.

In 1923 and again in 1926 I visited Finland to observe life there and to check against the observations made in the United States. It seemed desirable to trace the development of the Finnish people from earliest times to the present to determine whether or not environmental influences had persisted throughout their social and economic life. The results of this investigation and a summary of that made in America are presented here.

In this presentation caution has been exercised to avoid overemphasis of the environmental factor; on the other hand, I have not hesitated to give full weight to those elements which seemed to me to be clear-cut. I have endeavored to preserve a scientific attitude throughout and to recognize the part played by heredity and other non-geographic factors. Frequently these latter effects have been far-reaching. If the reader at any time believes that a given situation has been overdrawn, I shall hope the assertions involved may serve to stimulate further study, to the end that the facts may be learned, whether they lead to the support of the theory or to its overthrow.

The pursuit of this investigation has been greatly facilitated by the Finns themselves, who have willingly and promptly responded to all inquiries and have made available, so far as possible, such data as I requested. The list of individuals to whom I am indebted for many courtesies is long. To all of those who have given assistance I record my deep appreciation. In addition, I wish to express my obligation to certain persons who rendered exceptional cooperation: Mr. O. J. Larson, Duluth, Minn.; Mr. Carl Salminen, Editor, *Finnish Daily News*, Duluth, Minn.; Mr. Leonard Aström,[1] Minister from Finland, Washington, D. C.; Miss Martha Hamalainen, Gardner, Mass.; Dr. Martti Kovero, Chief, Central Statistical Bureau, Helsinki (Helsingfors); Mr. Georg Theslöf, formerly, Foreign Ministry Bureau, Helsinki; Mr. Mauri Honkajuuri, Director, Kansallis-Osake-Pankki, Helsinki; and to Frieda Van Cleef, my wife, at whose suggestion the investigation among the Finns in the United States was first undertaken. To the faculty of the School of Geography of Clark University I express my appreciation for courtesies extended me while the manuscript was in preparation.

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[1] The initial letter of Astrom, Aland, Abo, and a few other words beginning with A, is written in Finnish with a small circle over it.

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CHAPTER I

THE LAND

Boundaries.— Geology.— Physiographic Provinces.— The Water Surface.— The Coastline.— Landscapes.

Between continental Russia* and peninsular Scandinavia lies the new republic of Finland—Suomi—projecting its western frontier into the waters of the upper Baltic. Although seemingly remote from the activities of a hurried world, the country has been for centuries readily accessible to the trading peoples bordering upon Europe's northern Mediterranean. Practically all of Finland stretches northward from the sixtieth parallel to the Arctic coast, balancing itself upon the Arctic Circle. This northerly location might imply a land of ice and snow unfit for modern civilization, but, thanks to the tempering influence of the prevailing southwesterlies blowing from the warm Gulf Stream Drift of the nearby Atlantic Ocean, the country enjoys a climate which, though rigorous, invites a sturdy progressive folk.

The boundaries of Finland, in part natural and in part belonging to the chalk-mark variety, serve effectively to give her physical unity. On the west, extending from the Gulf of Finland to the mouth of the Tornio River, the Gulf of Bothnia affords a natural boundary which in the early centuries halted the westward migrating Finns, and during the eighteenth and nineteenth centuries became a much desired frontier for the expanding Russian Empire. Continuing northward from the head of the Gulf, the boundary coincides with the course of the Tornio River as far as its tributary, the Muonio, which it follows northwestward to Lake Kilpisjärvi where the Norwegian boundary meets the Finnish-Swedish line. From this junction point, the Finnish boundary continues as an irregular line of demarcation for a distance of 593 miles (983 km) finally reaching the remote Arctic. It follows the watershed between Arctic and Baltic drainage systems until it approaches within fifteen miles (25 km) of the head of Varanger Fjord, whence it ignores natural boundary sites in favor of a delimitation set by the Swedish-Norwegian-Russian Treaty of 1826.

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* The term "Russia" is used throughout the book as a more convenient name than the "Union of Soviet Socialist Republics," the name applied to most of pre-war Russia, when after the revolution of 1917 the Soviets gained political control.

An outlet upon the Arctic was long coveted by Finland; but, having been successively subject to Sweden and Russia until 1917, she had no voice in international matters. While Finland was under the sovereignty of Sweden, the Lapps of Swedish Lapland enjoyed fishing and sealing rights in the Arctic and the privilege of summer reindeer grazing in northern Norway. Norwegian Lapps shared reciprocal rights in Swedish territory during the winter. With the Russian acquisition of Finland in 1809 the Swedish privileges were transferred to Finland. However, their possession was short-lived, for on May 14, 1826, Russia, ignoring Finland's welfare, entered upon an agreement with Sweden and Norway, assigning portions of the Foelles district to Norway and Russia, thereby blockading Finland's access to the Arctic and denying to the Finnish Lapps the use of these northern grazing lands. Not until the Treaty of Dorpat in 1920, did the Finns gain a footing upon the Arctic coast, when the Soviets ceded Petsamo to them, reserving only the right to cross the province should military exigencies require.

The Arctic coast boundary of Finland, though short — only sixty-six miles (110 km) — possesses considerable potential economic and strategic value.

Following southward from the Arctic coast, the eastern boundary picks a way through forest and swamp, across bare rock exposures, lakes, and rivers, for a distance of 1,095 miles (1,825 km). This marks Finland's poorest boundary, considered from the viewpoint of protection against military invasion; and yet the vast boglands upon either side of the line would effectively check the progress of attempted mass movements across that line in summer, while in winter snows and cold would demand, for successful penetration, virtually superhuman physical endurance.

The southern boundary, like the western, follows a natural line, namely, the shores of the Gulf of Finland, excepting at its eastern end where it traverses the corridor-like land mass between the Gulf and Lake Ladoga. At this point, the boundary approaches within fifteen miles (25 km) of Leningrad and cuts across the main route between Finland and Russia, along which possible belligerent activities of Soviet Russia would take place. Recognition of this weak link in the boundary is revealed by the strong Finnish fortifications north of it in the neighborhood of Viipuri (Viborg)*.

The boundaries described encompass an area of 150,222 square miles (388,483 sq. km), which is one-third greater than that of powerful Great Britain but only one twenty-third the area of Soviet Russia in Europe. Within this territory the traveler may observe in rapid succession lakes, bogs, streams, forests, bare rock wastes, boulder-strewn surfaces, and conspicuous hills, either forested, farmed, or barren. The region is but a continuation of the glaciated Scandinavian metamorphic and igneous land mass marked by many of the same kind of geological and topographic formations.

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* The name in parenthesis represents the Swedish form. This form will be indicated the first time a name is used for which the Swedish is given recognition in Finland. Thereafter, however, only the Finnish form will appear.

Gneisses, schists, granites, basalts, and a miscellaneous assortment of igneous complexes compose the bed rock of Finland. Their early geologic history is obscured by the absence of fossils, but according to Van Hise and Leith seems to be analogous to that of the western portions of the Lake Superior District in the United States. Although the history for the most part remains unsolved, the massive rocks constitute an important economic resource. Granites — red, reddish brown, gray, and other colors — enter into the construction of the costly public buildings. Some of these stones, being porphyritic in structure, that is, containing large prominent crystals distributed through the mass, are especially prized for building purposes.

Upon the igneous foundation lies glacial drift of Pleistocene age, with its valuable sands, gravels, and argillaceous deposits laid down either during or after the period of glaciation. This drift offers not only an adequate supply of materials for brick and plaster construction and for road building, but, perhaps more important still, supports the best forests and provides the best pasture and crop lands.

The deposits which characterize the region as a whole are the moraines, of which every known variety exists in almost perfect formation. Ground moraines cover the entire surface, excepting the bare rock exposures and the bog lands. Moraines having local prominence, some of which are true eskers, form ridges with predominantly northwest-southeast axes and indicate the general direction of the ice movement. A few frontal moraines mark the temporary halt of the ice during periods of recession, and one great terminal moraine, in southern Finland, points to a stage in the glaciation of the country when the ice carried unusually large quantities of debris and piled the material up into a conspicuous ridge across southern Finland from Hanko in the west to the vicinity of Sortavala in the east. This terminal moraine, known in Finland as the Salpausselka, compares favorably in form with the noted Valparaiso moraine of the northern Illinois-Indiana region in the United States; but, located in a region less well known, it has received scant notice by the scientific world or by the general public. Carrying the principal east-west railroad and a parallel highway through a region abounding in swamps and lakes, the Salpausselka possesses an economic significance which cannot be estimated in terms of the dollar.

Eskers, kames, drumlins, outwash plains — all in great array — stamp the country as a glacial geologist's paradise. Among the eskers famed for both the perfection of their form and their scenic setting, Punkaharju, located twelve miles southeast of Savonlinna (Nyslott) takes first rank. It projects into Lake Puruvesi for a distance of five miles, winding in S-like fashion from northwest to southeast, while its upper surface falls from a height of about 150 feet at its northern end to lake level at its southern extremity.

Although Finland consists almost wholly of plains and uplands, a few heights rising conspicuously above the general level assume a mountainous aspect. In southeastern Finland bald Koli, a glaciated peak on Pielisjärvi (järvi means lake) reaches the highest point in this region, 1,120 feet (336 meters). Puijo hill, lifting its crest above the city of Kuopio in central Finland, attains a height of 814 feet (234 meters) and commands a view over the lake district which, by comparison, makes the beauty of the Thousand Islands of the St. Lawrence shrink into insignificance. Higher hills occur in the northeastern sections of the country, but only two, Rohmoiva and Sakusti exceed 2,000 feet (600 meters). However, in the northwest, where the finger projection of Finland thrusts itself wedge-like into the Norwegian province of Tromsö, Mt. Halde, at its tip, gives to Finland its only true mountain 4,385 feet (1,324 meters).

The topography of Finland readily lends itself to division into physiographic provinces. Certain irregularities of the surface complicate the problem of the proper location of boundary lines, but, until a detailed survey of both the geology and topography are completed, these boundaries must remain provisional.

The clearly defined Coastal Lowlands district may be subdivided on the basis of drainage into the Ostrobothnian plain bordering the west coast from Tornio to Turku (Abo) and the southern lowland from Turku to Viipuri and the region of Lake Ladoga. The Coastal Lowland in the latitude of Vaasa attains a width of seventy-five miles, marking the maximum extension of the Gulf of Bothnia in recent geologic time.

The lake district of Finland may be divided into two parts, the Central Upland Lake District, extending from the coastal lowland to the Russian boundary, delimited on the north by Lake Oulu and the chain of lakes stretching eastward to Russia, and the Northern Upland Lake District, which includes the region immediately to the northward where the lake frequency diminishes and the land relief increases.

At the northern boundary of the Northern Upland

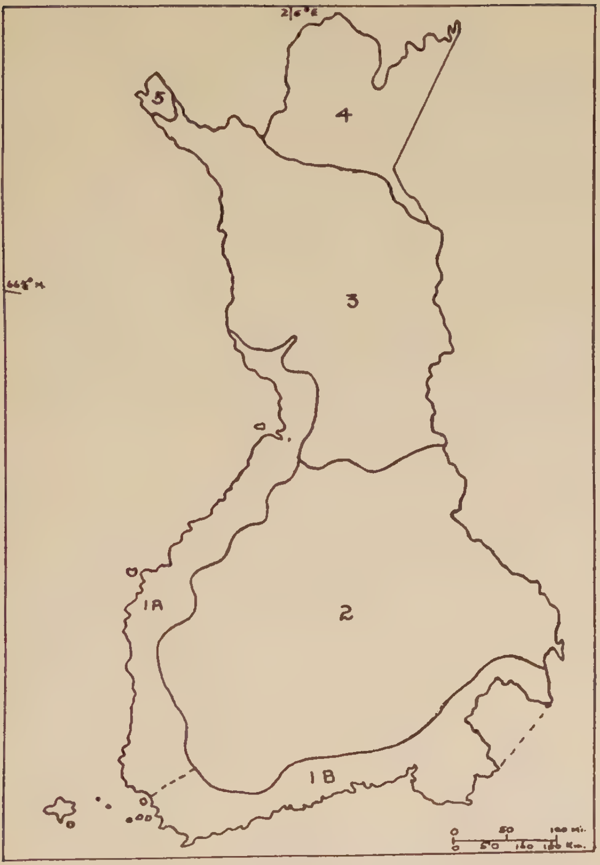

FIG. 1. THE NATURAL REGIONS

1. Coastal Lowlands
   A—Ostrobothnian plain
   B—Southern lowland
2. Central Upland Lake District
3. Northern Upland Lake District
4. Petsamo District
5. Northwest Highland

Lake District, where the river systems send their waters into the Arctic, the Petsamo District begins. This region includes an area somewhat larger than the political unit of the same name.

That part of the northwestern extension of Finland where Mt. Halde represents the mountainous portion of the country is reserved for the Northwest Highland province. While it cannot be construed as a physiographic province in relation to Sweden or Norway, since it is but a part of the Scandinavian highland, yet from the Finnish viewpoint it may be so considered because it stands in conspicuous contrast with other parts of Finland.

The landscape of Finland has been aptly termed by a Finnish geographer "amphibious." Sixty to seventy-five per cent of the surface classifies as wet, 11.55 per cent consisting of lakes, 30.8 per cent of peat bogs, and the balance of poorly drained lands other than peat bogs. In the Middle Ages the word "Suomi" meaning swamp, now the Finnish name of the country, was applied by the people occupying the drainage basin of the Aura River to all of southwest Finland. As knowledge of the nature of the country increased and the wide applicability of the name Suomi became apparent, the appellation was generally adopted and stands today as the national name.

Finland has been called by some writers the "Land of a Thousand Lakes." The statement not only becomes credible when one looks at the map but arouses a challenge of the estimate, for although the lakes have not yet been counted, 40,000 may be accepted as approximating the correct total. No other equal area of the earth possesses so high a lake density. The closest rival is found in northeastern Minnesota, where, rather strikingly, one of the principal Finnish settle-

FINNISH LAPLAND

THE MIDNIGHT SUN

A TYPICAL WINTER LANDSCAPE

PUNKAHARJU ESKER

ments in America is located. The Finnish lakes serve as great reservoirs for the waters supplying the three principal river systems and stabilize their flow.

The best-known lake and river system is the Saimaa, which penetrates the heart of Finland and takes its name from Lake Saimaa about 50 miles north of Viipuri, the country's largest lumber export center. This system was first improved in 1856 by the opening of the Saimaa Canal connecting Lappeenranta on the south shore of Lake Saimaa with Viipuri upon the sea. While this improvement has had a large economic value to nearly all of southeastern Finland, it has not enthused the populace as have the glorious falls of Imatra whose waters cascade over the granite terraces of the Vuoksi River and, tumbling through a glaciated rift channel which occasionally opens into a lake-like expanse, finally reach the wind-tossed waters of Lake Ladoga. Imatra is to the Finn what Niagara is to the American, though the two falls are hardly comparable in size or beauty; but to the Finn, Imatra is a source of genuine pride. The falls will probably perform their greatest service to the country by generating sufficient electrical power to electrify all the railroads of southern Finland and furnish power for most of the local industries. In a country lacking coal, rapids like Imatra may well be prized.

The second great drainage system is the Päijänne, immediately to the west of Saimaa. Like the latter, it drains toward the south but is neither so extensive nor so complex. However, it possesses great economic significance, because it taps the south-central forest region of Finland, permitting the floating of logs from this district down the Kymi River to Kotka on the Gulf of Finland. The Päijänne waterway makes Kotka one of the leading timber export ports of the country.

The third important drainage system is that of the Kokemäenjoki, in southwestern Finland. It includes the group of lakes connecting with the Päijänne system to the east, though the primary flow is westward. Näsijärvi, the longest lake, appears to have the characteristics of a drowned river valley although some geologists consider faulting of the surface with subsequent glaciation along the fault lines responsible for the formation. This lake is connected by a series of rapids with a second elongated lake to the south known as Pyhäjärvi. About these rapids has risen Tampere (Tammerfors), the "Manchester" of Finland, whose largest textile mill, Finlayson by name, traces its ownership back to early Scottish proprietors, thus establishing a relationship to the British industry alluded to by the metaphorical "Manchester." Northward from the Kokemäenjoki Valley successive rivers in parallel valleys flow northwestward into the Gulf of Bothnia. The most northerly of these valleys, the Oulujoki (Uleå) connecting Lake Oulu (Ule) with the sea at Viipuri, drains a large portion of north central Finland and serves for the transportation of both goods and passengers from the interior. In the days of large-scale tar production, thousands of kegs of tar were sent down the river in long narrow almost sinuous boats, for export from Oulu (Uleåborg). Since the tar industry has dwindled into insignificance the skilled boatmen now carry tourists down the stream from Vaala on Lake Oulu to the village of Muhos, from which a diminutive steamship continues the journey to the Gulf. The ride down the river affords one of Finland's most thrilling experiences, involves the shooting of several sets of rapids, the first of which is Niskakoski five miles long, then the shorter Ahmaskoski and Koskensaari, succeeded by the eleven-mile

Pyhäkoski which tumbles down through a gorge varying from a few feet to 150 feet in depth.

Beyond the Oulu drainage basin in the heart of Lapland, the rivers flow from a central watershed eastward into the lakes across the Russian border, northward into the Arctic Ocean, or southward to the Gulf

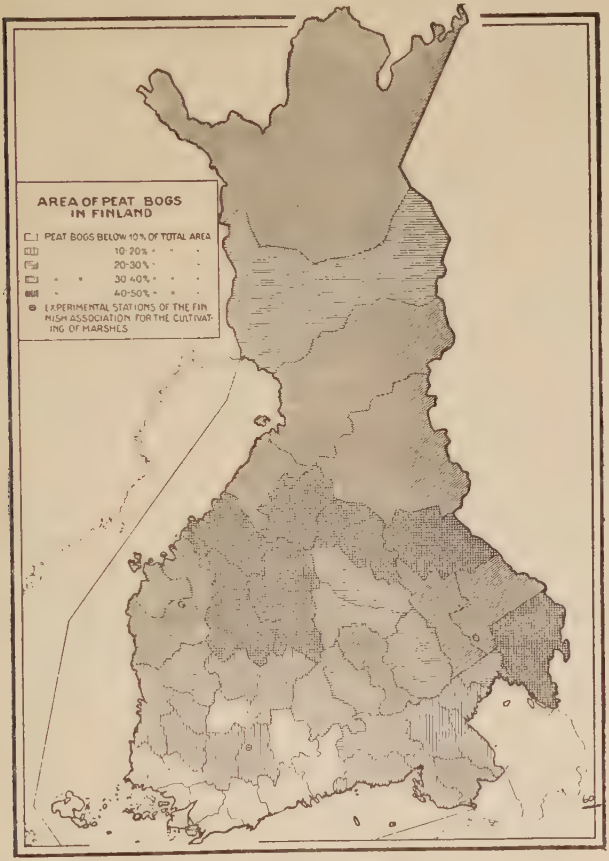
AREA OF PEAT BOGS IN FINLAND
PEAT BOGS BELOW 10% OF TOTAL AREA
10-20%
20-30%
30-40%
40-50%
EXPERIMENTAL STATIONS OF THE FINNISH ASSOCIATION FOR THE CULTIVATING OF MARSHES
69

FIG. 2. AREA OF PEAT BOGS

of Bothnia. They form a veritable network of water courses across this vast expanse of wild and desolate northland, broken only here and there by one of Finland's picturesque glacial lakes.

Bordering the lakes or occupying the interstream areas are Finland's peat bogs. Their estimated extent, totaling 25,000,000 acres (10,222,000 hectares), includes swamp lands not classifiable as peat. While the bogs are widely scattered, they lie chiefly in the northern, central, and eastern portions of the country. Occasionally forested islands of drift rise from their surfaces to break their continuity and relieve the monotony of the bog landscape. Most of the bogs attain sufficiently high levels to make mechanical draining of them feasible and their conversion into potentially productive lands possible.

The coast of Finland is frayed out into a ragged fringe of capes and islands. Where the Gulfs of Finland and Bothnia merge into the Baltic Sea, the southwestern extension of the peninsula breaks up into myriads of islands to form the Aland Archipelago. The island fringe protects the coastal re-entrants from damaging storm waves and oftentimes the islands themselves, with roomy embayments upon their lee sides, serve in the capacity of outer harbors. Here, too, sawmills may be located where they can receive logs rafted from the stream mouths and convert them into finished forms to be loaded for direct shipment to all parts of the world. The islands perform a further service to Finland's ports by way of protection against naval attack. At the deep channel entrance to the port of Helsinki lies the fortified massive granitic island group Suomenlinna (Sveaborg), the "Gibraltar of the North." The main channel passing the fortress is so narrow that when the U. S. Battleship "Pittsburg" visited Helsinki in 1923, it cleared the passage with only three feet leeway on either side. The islands offer other advantages and some handicaps. For the fishermen they serve as bases of operations; for those people with moderate or large incomes, they constitute sites for summer homes and playgrounds. On the other hand, in winter and spring the islands become anchor posts for ice, encouraging its formation in early winter and its retention in late spring, thereby hastening the close of the shipping season at the end of the year and delaying its opening in the spring.

The Aland Islands have been a bone of contention between Sweden and Finland since the establishment of the Republic in 1917. They are occupied by Swedish speaking people, yet, because they belong geographically and geologically to the Finnish archipelago, the government of Finland has claimed them. These islands have long been the stepping-stones between Sweden and Finland, facilitating communication with the peninsula during Sweden's six hundred years of sovereignty and fostering close trade relations since the independence of Finland. Within a two-hour ride of the Swedish mainland, lies the outermost and largest island of the group. It supports the old picturesque town of Mariehamn whose population of 2,000 is occupied in farming, lumbering, and fishing. Naantali (Nådendal) at the base of the Archipelago prides itself as the site of the President's summer residence.

The Arctic coast, to which reference has already been made in the discussion of Finland's boundaries, has but two embayments to interrupt its 66 miles (110 km) of regular shore. Of these two re-entrants, the Petsamo fjord, penetrating 15 miles (25 km) into the interior, gives Finland its only typical bit of Norwegian fjord landscape. Ice free, owing to the Arctic extension of the Gulf Stream drift, it possesses potential port possibilities the value of which it is difficult to determine at this time.

Five types of Finnish landscapes impress themselves upon the memory. Forests almost without end rarely leave the picture. Evergreens, mixed in the southern districts with the graceful and conspicuous white birch, form purer stands toward the north country in the latitude of the Oulu River, where extensive and almost impenetrable forests mark the landscape for vast distances. A second type of landscape belongs to the Ostrobothnian plain, whose level lands, long since cleared of their mixed coniferous and birch forests to make room for neatly kept farms, create an atmosphere of monotony when compared with the forest and lake regions of the adjacent upland central interior. In the latter district and in southeastern Finland, as one rides from lake to lake or looks from the car window out across the placid lake surfaces, he beholds an endless succession of views, unfolding vistas of conifers or silvery drooping birches or mixtures of both, casting their shadows upon the shimmering waters which send back to the eye the softened outlines of their majestic forms. This region stands in sharp contrast with the country to the north where the Tornio River opens the way to bleak Lapland and the Arctic tundra. Scattered coniferous forests and bare igneous rock expanses alternating with dark brown bog lands form the dominant note. The farther north, the fewer the trees, the more extensive the barren expanses, and the more repellent the general aspect of the country. But the beauty of the midnight sun relieves the somber scene of the summer, and the brilliant streamers of the Aurora Borealis break the monotony of the long winter nights.

One feature of the landscape scarcely anticipated by the traveler venturing into the northerly latitudes during the summer months is the profusion of wild flowers in the meadows along the roads, or in the clearings among the forests. They fairly light up the fields and make the atmosphere itself glow with color. Carpets of pink fireweed, oxeye daisies with their clean white petals and dark brown or yellowish centers, bluebells as blue as the heavens above, full-flowered red clover amid waving feathery grasses — these and hundreds of other blossoming plants so closely massed that one cannot avoid trampling some as he walks among them set a scene that discounts any attempt to stamp Finland as a desolate land. Beginning about the middle of June, the flowers appear in rapid succession until the middle of August, when the riot of color gives way to the quieter autumn hues of the northern foliage.

CHAPTER II

THE PEOPLE OF FINLAND

Finns — Swedes — Lapps — Germans — Russians — Gypsies. — Finnish Ancestry: Routes, Movements, Arrival, Adjustments.

The peninsular location of Finland between Russia and Scandinavia invited the immigration of Finns, Swedes, Lapps, Germans, Russians, and a sprinkling of Gypsies. Pre-eminent among the types, whose distinctive characteristics are clearly discernible by the average observer, stand the Finns with an early history veiled by complexity. While their habits, their customs, and their temperamental attitudes seem to reflect the conditions of their physical environment, the history of their migration needs to be reviewed to preclude an interpretation biased in favor of their present geographic setting.

It is held by some that the Finns entered Finland from the southeast and east, following a route either through the Leningrad-Viipuri corridor or across the swamplands of Carelia around the north end of Lake Ladoga. A few who settled along the south coast of the Gulf of Finland, now the Estonian coast, supposedly crossed the Gulf to Finland, either by boat in summer or upon the frozen surface in winter. Upon their arrival they met the Swedes who already occupied portions of the west coast and a few scattered localities along the south coast; but, since the Finns were possessed of rather passive tendencies, no conflict with the Swedes ensued.

After some eighteen hundred years of residence in Finland, the Finns still occupy chiefly the non-coastal regions and there tend to remain apart from the Swedes. The western interior is populated principally

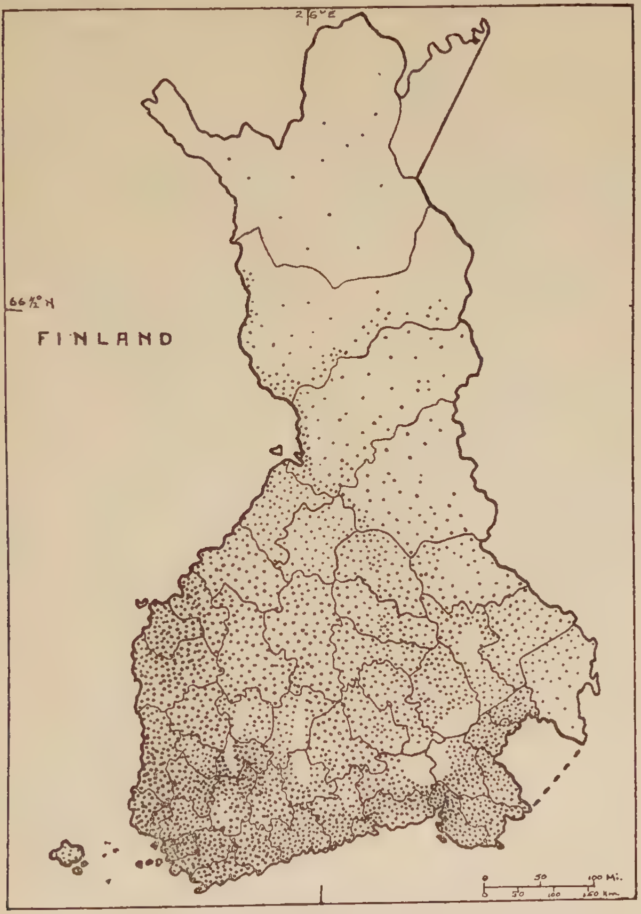

FIG. 3. DISTRIBUTION OF RURAL POPULATION
(Each dot represents 1000 people)

by the Tavast Finns who have preserved their purity to this day while in the southeastern portions about the head of Lake Ladoga are the Carelians. In the coastal lowlands from Helsinki to Oulu, the Finns have intermarried with the Swedes, while northward from the Oulu River a slight Lapp admixture is evident. The pure Finns and those of mixed ancestry together constitute 88.7 per cent of the total population.*

The Swedes, politically dominant in Finland from 1154 to 1809, crossed the Baltic at a very early undetermined date via the Aland Archipelago, whose outer islands are separated from the Swedish coast by a mere 24 miles (40 km), or they occasionally trekked in winter across the ice bridging the northern parts of the Gulf of Bothnia. Always occupying the coastal lands, they have lived in close and convenient proximity to their homeland and consequently have had little difficulty in maintaining their political position until the growing power of the Russian Empire successfully asserted itself in 1808-1809.

The Swedes never penetrated the interior of Finland; they left that territory to the Finns, and only relinquished to them those portions of their coastal lands which had poorly drained or bouldery soils. On the other hand, they allowed the Finns to live in their cities and to participate in the foreign-trade activities of the country. Today the Swedes are still concentrated along the west and southwest coasts and include 11 per cent of the total population. Here also are congregated 90 per cent of all the Swedes in Finland.

A people who lived in the coastal regions probably prior to the coming of the Swedes were the Lapps. Their early movements are little known, but it seems likely that they were first forced by the Swedes to migrate into the interior; and later, pressed by both Swedes and Finns, moved farther into the back country and northwards, until they eventually reached uninviting Lapland, desired neither by Swedes nor Finns. While the Lapps more than likely are related to the Mongolians, nothing definite can be stated with reference to the route followed by them into Finland or to the date of their arrival. Today, leading a nomadic life during the summer season, they graze their herds of reindeer and engage in fishing and hunting as far north as the Arctic coast; as the winter approaches, they migrate southward to the Tornio and Kemi River basins or into northern Norrland in Sweden, where they live a sedentary life for a few months. Only 1,603 Lapps are recorded in the Finnish census.

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* Recently, a new term "Finlander" has been suggested, applicable to all inhabitants of Finland. Unless usage can eventually force official recognition, no favorable action is likely to be taken by Parliament.

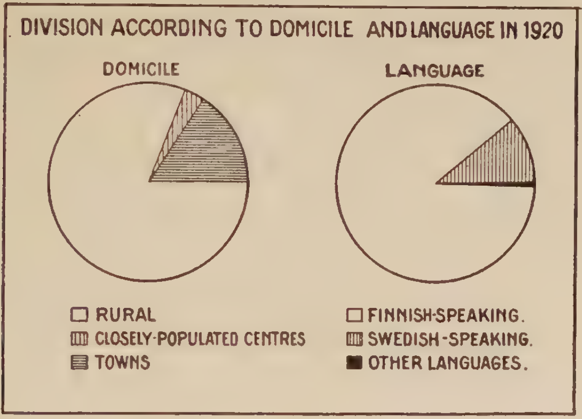

FIG. 4. DOMICILE AND LANGUAGE

About the time that the Swedes succeeded in leading several crusades (1154-1293) into Finland, German traders were reported occasionally in Turku and Viipuri, becoming increasingly conspicuous in Viipuri as the Hanseatic League developed. Most of the 2,378 Germans now resident in Finland live in cities where they are engaged as small tradesmen, while only 227 live in the rural communities.

The Russian elements in the population have filtered across the boundary in many different capacities, sometimes as peasants, again as servants to the landed aristocracy, or as members of armies bent on conquest or the enforcement of some arbitrary imperial decree. They are domiciled principally in east-central and southeastern Finland. Although for a century they enjoyed the prestige of the ruling peoples and their number today (4,806) is twice that of the Germans, they play an inconspicuous part in the activities of the country.

The Gypsies, anomalous to the racial groups normal to this northen environment, entered Finland at the beginning of the sixteenth century, either via Russia or Sweden. They lead a nomadic life here as in other countries and are too few, probably less than three hundred, to be recorded in the census.

Three distinct anthropological types are apparent to anyone passing eastward from Turku on the coastal plain to Hämeenlinna (Tavastehus) in the west-central upland lake district, and on through Viipuri and Sortavala at the eastern end of the coastal lowland. On the west coast dolichocephalic Swedes furnish the dominant type; immediately to the east in Häme (Tavastland) the brachycephalic Finns prevail, and in the far east at the head of Lake Ladoga live the Carelians, with a cephalic index yet higher than that of the Tavasts. A racial cross section of the country from Helsinki to the Arctic coast duplicates the west-east section except at the northern end, where the broad-headed Lapp takes the place of the Carelian type,

INDUSTRIAL FINLAND

Excellent Brachycephalic Types

though he cannot be construed as a true Finn. Intermediate types or transition groups may be observed everywhere, known as Swede-Finns, Finn-Swedes, and other mixtures.

Cross sections of the country in terms of cephalic indices offer a more definite presentation of the differences among the types than a word picture:

West-East Section:

78 (Swedes) — 80 (South Ostrobothnians) — 80.9 (Tavasts) — 81.3 (Savolatians, closely related to the Carelians) —82.15 (South Carelians).

South-North Section:

73 (Swedes) — 80.9 (Tavasts) — 82.6 (North Ostrobothnians, probably mixed with Lapps) — 85.33 (Lapps).

Philologists, anthropologists, ethnographers, archaeologists, and historians do not all agree upon the place of origin of the Finns. Philologists generally claim a linguistic relationship between Finns and certain Slavic groups and assert the Altai Mountain district of Asia to be the original home of the Finns. Anthropologists, on the other hand, object to philological evidence as a sole basis for assuming racial relationships, insisting upon physical traits as the only reliable basis for investigation. The ethnographers pursue a middle course, accepting portions of the evidence offered by both philologists and anthropologists. They support the theory of a linguistic relation to the Ural-Altaic groups, and also admit a physical relation to certain European tribes whose original home may have been in central Asia.

The problem of Finnish ancestry is exceedingly complex and, with scant exact data upon which to base conclusions, must remain for some time in an unsolved state. However, those scientists who have devoted much energy to this question seem to be fairly agreed that contact with Asiatics, either direct or indirect, has left its impress upon the Finns to a degree which does not place an Asiatic origin beyond the pale of theory and may eventually bring it within the realm of fact. Excavations by archaeologists in the middle and lower Volga districts have brought forth artifacts which suggest ancient Finnish settlements which may identify this region as the original home of the Finns. Archaeological studies in the Valdai Hills cause one Finnish archaeologist to venture the opinion that this part of Russia gave birth to the Finnish element and that these Finns as well as those of the Volga farther south may well have migrated into Asia and returned to Russia before settling in Finland. Such a migration, necessarily slow, would have brought the Finns into contact with Asiatics and the subsequent intermixture of the two groups might have resulted in Finnish acquisition of some Asiatic characteristics.

Whether or not the Finns originated in Asia, or in Europe and subsequently migrated to Asia, their route from the eastern districts to their present center of activity offers interesting speculation. Two possibilities present themselves. One route leads down the valleys of the Ob and Irtysh Rivers to northern Siberia and westward toward their present location. The other route involves a movement northwestward from the Altai district down the Irtysh to Omsk, then either overland or via Tobolsk to the upper Tobol and across the low Urals to the Volga via the Bjelaja and Kama Rivers, or via the Tobol, Isset, and Kama Rivers to the Volga; thence along the upper Volga to its headwaters and overland to Estonia and Finland. They may have entered Finland either by crossing the Gulf from Estonia or by going around its head or by pushing their way direct from the east through the Leningrad-Viipuri corridor or by all three avenues.

The movement along these routes could be only exceedingly slow. It may have begun about 2500 B.C., as evidenced by the occurrence of certain loan-words in the Finno-Ugrian languages derived from the parent Indo-European tongues, and ended about 100 A.D., the date of the earliest Finnish settlements in Finland. The nature of the country traversed, a region of dense coniferous forests which challenged the primitive implements of the pioneers, discouraged easy movement. "Primeval forests have always offered serious obstacles to men armed only with stone or bronze axes, and they rebuffed even men of the iron age," says Ellen Semple. Additional impediments to travel were the swamp lands occupying inter-stream areas and the spring floods along the banks of the rivers which lay across the migration paths. These wet lands must have oftentimes driven the migrants to the higher lands where again the dense forest impeded their progress. The rivers offered the easiest routes during spring and early summer, a period so short — about four months or even less in the Russian tundra— that considerable advances could rarely be made. Their pastoral nomadism would tend to slow down their rate of progress. In some years the drouth of late summer lowering the water to a level prohibiting navigation would still further reduce the travel period. The cold and snow of winter demand exceptional endurance for sustained travel, place restrictions on the food supply, and generally check rapid migration among the primitive.

The peninsula of Finland caught the migrating tribes as they sifted into the country from the east. The Finns may have penetrated here and there to the Baltic coast, but their permanent occupation of the latter region was prevented by the Swedes who were already there and diverted these migrants into the forest and lake interior. Having entered Finland, the Finns were not to be ejected. Moreover, they were undisturbed by the subsequent Slavic expansion into northern Russia, for the swamp lands north of Lake Ladoga served as an effective natural barrier against would-be invaders, while the corridor between the lake and the gulf was easily defended. In fact, until 1808 the Finns, aided by the Swedes, thwarted every military onslaught from the east.

The topography and climate of the region across which the migration paths lay, and of the peninsula occupied for more than eighteen hundred years by Finnish peoples, exerted a strong influence upon the mode of life and physical characteristics of later generations, as we shall endeavor to show in succeeding chapters. Here, certain general geographical conditions should be noted. The entire northern third of the Russian plain, limited on the south roughly by the course of the upper Volga and the Gulf of Finland, has a dense coniferous forest covering. The region has been glaciated and is ill-adapted for agriculture. Furthermore, the severity of the climatic conditions involving a short growing season militates against successful agriculture even when soils are favorable. In this environment, the intensity of the struggle for existence has allowed only the physically fit to survive. Few peoples possess the physique, or display the endurance, the patience, and the courage of the northern Russian tribes, particularly of the Finnish

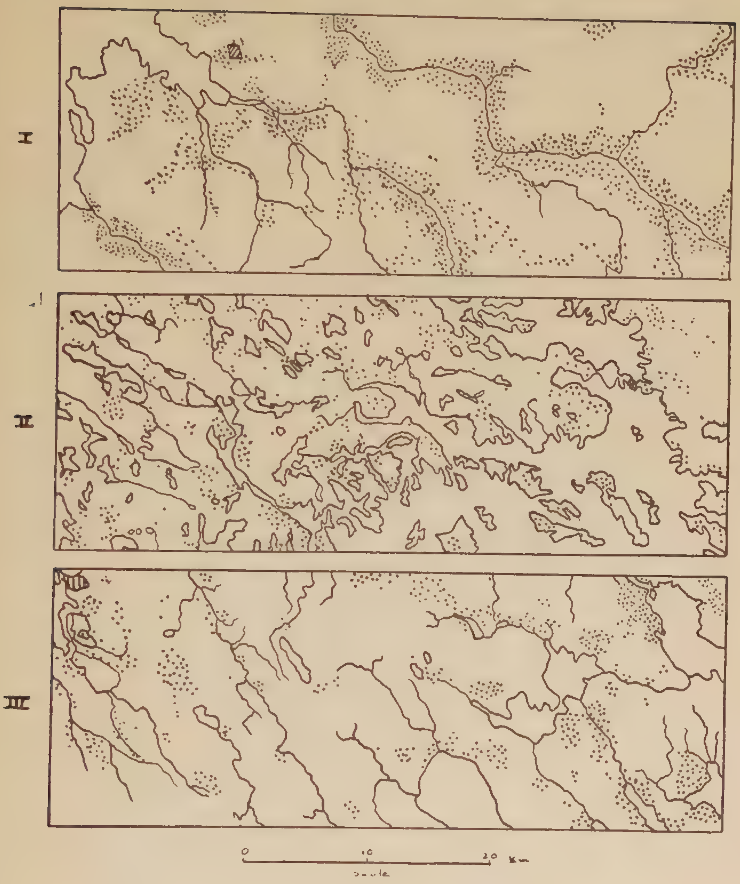

FIG. 5. POPULATION MAPS

Map I, selected from the Ostrobothnian plain occupied by Swedes, shows the close adherence of population to river valleys.

Map II, taken from a section of the Central Upland Lake District occupied by Finns, emphasises their predilection for lakes.

Map III, selected from one of the oldest settled Finnish regions in Finland, a part of the muchly traveled Viipuri-Leningrad corridor, points to an encroachment of population upon some river valleys but an equally strong inclination to settle along lake shores and inter-stream areas.

groups. The primitive mode of life, the architectural form of the dwellings, and the music, literature, art, and religion show a striking similarity throughout the territory.

The lasting impress of this home environment is revealed by the behavior of Finnish migrants during recent times. Those who have gone to Sweden or to the United States have settled in parts agriculturally undesirable. They have sought regions physically similar to those of Finland, such as the upland forest and bog area of Sweden or the muskeg, lake, and forest areas of the northern United States. The settlers in the latter country have persistently refused to occupy better lands, or, in many instances, after having farmed good lands, have given them up and returned to the poorly-drained lake and coniferous-birch forested sections. They prefer the landscapes like home; they understand how to live in such areas; they like the cold winters, the snows, and the lake vistas. The background of centuries in the northlands of

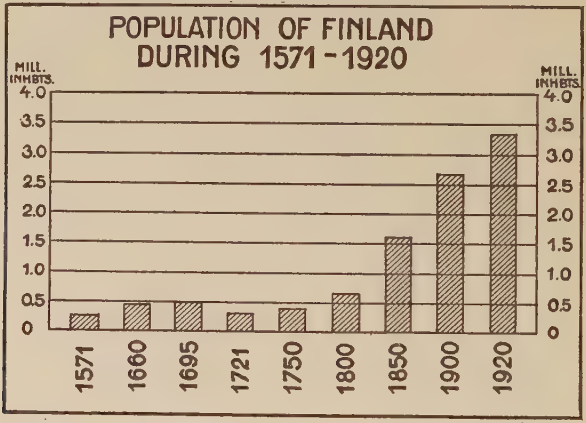

FIG. 6. POPULATION GROWTH

Europe, and of Asia perhaps, has adapted them to a given mode of life; and wherever they find the particular conditions favorable to this life, there they find themselves at home.

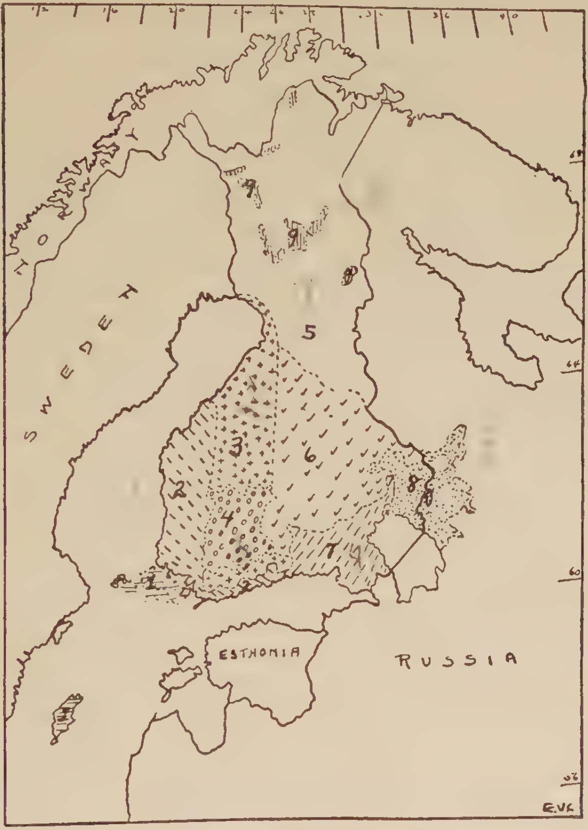

FIG. 7. DISTRIBUTION OF CULTURAL INFLUENCE

1. Pure Swedes.
2. Swedish influence dominant.
3. Finnish and Swedish mixture.
4. Pure Finns (Tavasts).
5. Essentially uninhabited.
6. Mixed Russian and Finnish.
7. Finnish influence dominant.
8. Pure Finns (Carelians).
9. Lapps.

Finland's intermediate location between eastern and western Europe, between backward Russia with its century old Asiatic connections and Sweden with its progressive western outlook, may be sketched in terms of the distribution of cultural influences apparent in the different parts. Swedish culture remains dominant in consequence of six hundred years of Swedish sovereignty, while the effect of a hundred years of Russian power rapidly gives way. With modern means of communication and their new independence, the Finns will work out their destinies unhampered by Russian politicians and with full opportunity to take their rightful place among the world's modern nations.

CHAPTER III

THE CLIMATE

Temperature. — Frost. — Precipitation. — Humidity. — Cloudiness.— Winds.— Ice Formation.— Life Responses.

The rigorous climate of Finland compels the people continually to accommodate themselves to changing states of the atmosphere. Extreme variability in temperature, wind, and moisture challenges the sturdiest of men, and only those endowed with unusual stamina survive.

The factors controlling the climate produce neither a marine nor truly continental type. While the high latitude of the country, almost wholly north of the sixtieth parallel, suggests a cold climate, Finland's position in a transition area between the relatively warm waters bordering northwestern Europe and the extensive continental land mass of Eurasia to the east, offsets to a large degree the effects of a sub-polar location. The Scandinavian Highland to the westward exerts scant influence upon the climate, the high latitudinal location of its southern terminus permitting the prevailing southwesterlies to blow uninterruptedly from the warm Gulf Stream Drift across southern Sweden and the Baltic to Finland. A vast area of shallow lakes in the south half of the country moderates the continental influences and contributes toward a marine effect. The permanent North Atlantic low-pressure area centered near, or at times over Iceland, intensively developed in winter but quite flat in summer, induces rapid pressure changes through the medium of the passing cyclonic storms,* which attain their maximum frequency in northwestern Europe. Topography plays a negligible part among the larger climatic factors.

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* The term "storm" as used here, denotes a cyclone or anticyclone and not local thunderstorms or other occurrences of inclement weather.

Contrary to popular belief, the climate of Finland is not "frigid." Although cold in winter and cool in summer, the extremely low temperatures commonly accredited to it are rarely reached. In America people often think of the regions near the Arctic Circle as the lands of the Eskimo and not as territory where the mode of life characteristic of the middle latitudes can function; but in this northern land, the proximity of the Gulf Stream Drift and the Iceland low, already alluded to, so modify the temperatures through the agency of the prevailing southwesterlies that occidental civilization survives. Temperatures are still further moderated, because, for a time in summer, north of the Arctic Circle the sun remains above the horizon for 24 hours of each day and south of the Circle almost as long, contributing a large amount of insolation.

The maximum temperatures attained in July do not reach great heights, the average for the month in the southern parts being 63°F (17°C) and in the north 60°F (15.7°C). The absolute extremes at times reach 86°F to 95°F (30°C to 35°C) but seldom do the people experience sunstroke or suffer from recurring extremes of heat. Although the maximum temperatures are not generally high during the summer, neither are the minimum temperatures unduly low in winter.

The minimum temperatures occur in the months of December, January, and February, the last named being coldest. Oulu in the north has an average February temperature of 13°F (-10.4°C); Tampere in the south-central district records an average for the same month of 19°F (-7.4°C) and Sortavala in the southeast experiences 15°F (-9.6°C). At Mariehamn on the outer island of the Aland Archipelago, the average is 25°F (-3.8°C) indicating a striking marine influence. In the heart of Finnish Lapland,

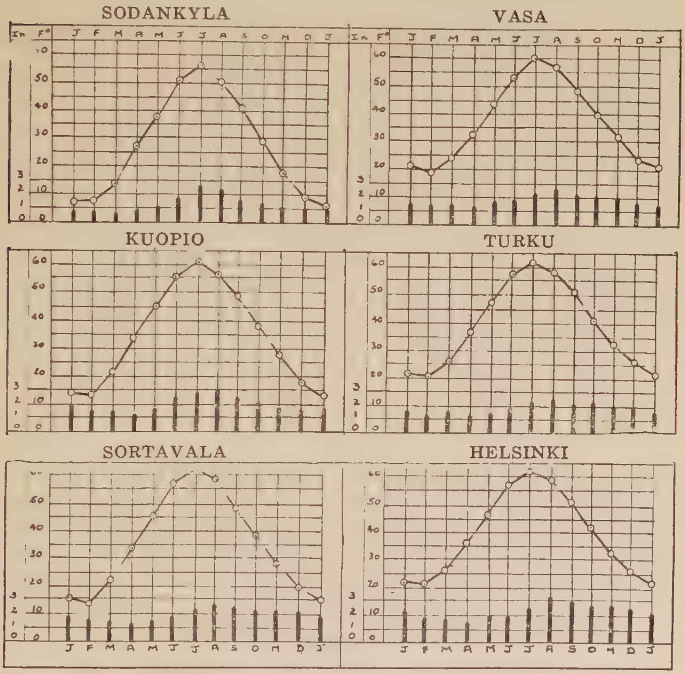

FIG. 8. TEMPERATURE (CURVE) AND PRECIPITATION (VERTICAL BARS)

for which dependable data are still lacking, the minimum temperatures for February approximate 5°F (-15°C). In the Petsamo district, at the northernmost extremity of Finland, temperatures average slightly higher than in the interior, owing to the presence along the Arctic coast of an arm of the Gulf

Stream Drift and a northerly wind which blows across it. At Vaitolahti on the coast, the February temperatures average 19°F (-7°C) while at Petsamo, about 20 miles (32 km) inland the average falls to 14°F (-10°C). The mildness of these temperatures appears in a comparison with those of northeastern Minnesota which lies in latitude 47° N. to 48.5° N. in contrast with that of Finland, roughly 60° N. to 70° N. There the averages for the winter season range from 12°F down to 3°F (-11°C to -16°C). In Finland, lower readings than the average occur, as for example, in the northern interior where occasionally they drop to an extreme of -40°F (-40°C) and frequently to -20°F (-29°C). On the other hand, in southern Finland such low readings are rare, the extremes reaching only to the neighborhood of -4°F (-20°C).

The annual range between the minimum and maximum in the north reaches 52 F° (29 C°) while near the coast in the south it falls to about 36 F° (20 C°). The diurnal amplitude, often equaling the monthly variations, demands of the people rapid physiological adjustments and consequently strong constitutions. Difficult as these adjustments may be, of more serious moment to the people are the minimum summer temperatures which threaten their crops.

Although southern Finland enjoys fifty days of continuous daylight in mid-summer, so much nocturnal cooling by radiation is effected that the frost point may be reached in any month. Frost is the farmer's worst enemy, for a single night may see the complete destruction of his crops. He fairly holds his breath between the first appearance of his plants above the ground and harvest time. While summer frosts generally are confined to local areas, in some years they have been widespread. Frost frequently increases from the coast toward the interior; but, locally, windward shores of some lakes may escape. The frost problem has been given attention by the experiment stations which have afforded the people some relief through their studies of land clearing with respect to air circulation.

Battling frost with all the odds seemingly in frost's favor is the most disheartening obstacle with which Finnish life must contend. Only persistent effort through a long period of years has brought about the success which the Finns have attained. Only an indomitable will and unflinching courage could face the succession of disappointments which confronted these people. That they do not always wear a smile is not to be wondered at; that they occasionally show signs of pessimism is not without justification; and yet, on the whole, they possess an optimism, in spite of the severity of their struggle, which entitles them to wholehearted praise and admiration.

In Alexis Kivi's *Seitsemän Veljestä* (The Seven Brothers), a masterpiece among Finland's literary productions, the contest between the people and King Frost receives prominent recognition. That the primitive Finn had an appreciation of certain mechanical adjustments which would reduce the frost hazard to a minimum emphasizes the amount of attention which these early people directed to a solution of the problem. The seven brothers, after having passed through many dismaying vicissitudes, arrive at a point where the future basks in a little sunshine. They settle upon new land consisting of meadow, swamp, and forest and at the end of the first year enjoy a fair crop. The second year, when a bumper crop was anticipated, the wind shifting into the north one afternoon was followed by a steady drop in temperature. By nightfall it had ceased, the sky cleared, and a heavy frost ruined the prospective crop; but undaunted by this calamity the brothers sowed seed again. The next year another frost occurred but did less damage because part of the forest had been cleared to permit of free air drainage. The following year, by tiling the wet lands and carrying the clearing farther, they materially reduced the frost danger. Today the clearing of the forest to afford free air circulation is an established principle of frost prevention.

Oftentimes in clearing a farm site, the pioneer follows a plan which affords him protection against strong winter winds but unwittingly exposes his prospective farm to frost hazards. This type of clearing creates an air pocket from which radiation may proceed unhindered and on favorable nights lowers the air temperature to the freezing point. In the enclosing woods, the soils continue frozen later in the spring than do those in the open. Consequently, the air in these woods maintains a low temperature well into the growing season and, flowing out at night, reduces the air temperature over the farm to within striking distance of the frost point. Contributing further to the maintenance of

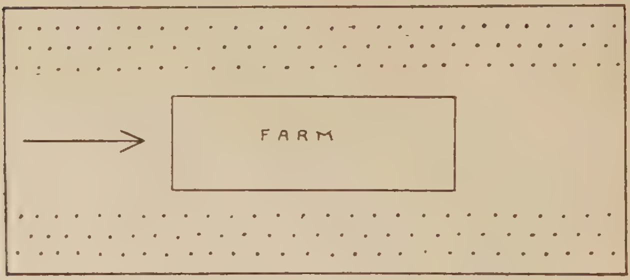

FIG. 9. FOREST CLEARING FOR FROST ELIMINATION. (Dots, Forest Left After Clearing. Arrow, Prevailing Wind)

cold air over the clearing, is the shade cast by the adjacent trees; for, in these high latitudes where the low angle of the sun's incident rays results in long tree shadows, shade assumes a much more critical importance in its effect upon agriculture than farther south.

To remove the conditions favorable to frost formation, trees are cleared well back from the proposed crop field to allow free air circulation across the land and to reduce the encroachment of their shadows. Whenever a portion of the forest must be conserved, as required by law in Finland, then the clearing parallels the course of the prevailing winds to permit a maximum of air movement.

The dominant forms of precipitation include rain and snow, with occasional hail, the total fall ranging from about 18 inches (450 mm) in the north to 26 inches (550 mm) in the north-central districts and 28 inches (700 mm) along the Gulf of Finland. The rain in the south distributes itself fairly evenly through the summer half of the year inclining, however, toward a dry period in March and April and a wet period in August. In the extreme northern part, a similar even distribution occurs, excepting that July marks the wettest period. Light rains on successive days happen more commonly than heavy rains on single days, the shower frequency reaching in some localities as high as 50 per cent of the days.

The snowfall in terms of melted snow equals from 30 per cent to 50 per cent of the total annual precipitation. It begins in the south about mid-October and continues as late as April, while in the north snowfall occurs from September to May. The maximum depth before the spring thaws begin, ranges from 20 inches (50 mm) in the Aland Islands to 60 inches (150 mm) in the north. In the absence of thaws, snow accumu-

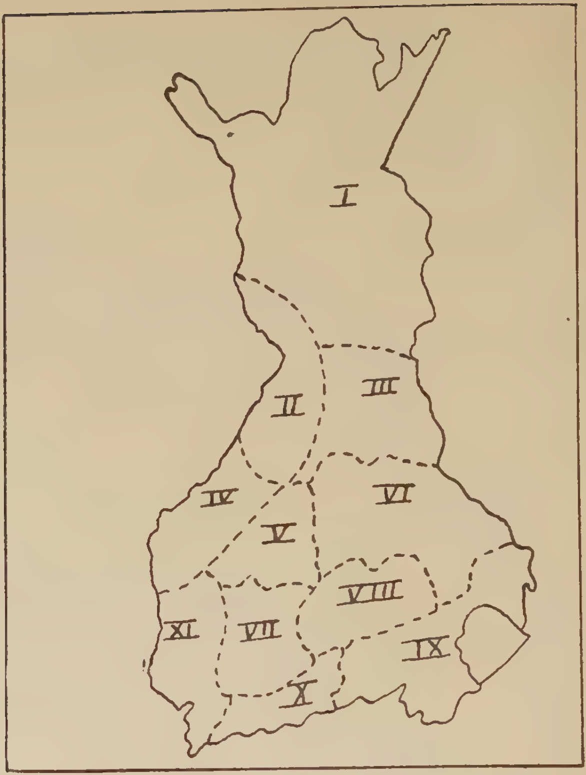

FIG. 10. FROST DEPTH (In Centimeters)

District	Average		Severe Winter		Mild Winter		Number of Days Frost Continues After Snow Disappears	
	Drained	Bog	Drained	Bog	Drained	Bog	Drained	Bog
I...	60	58	100	88	43	42	28	60
II...	67	52	99	88	34	31	26	45
III...	36	31	61	58	26	18	16	38
IV...	42	38	62	57	25	23	25	37
V...	28	23	50	44	18	11	20	28
VI...	24	25	41	43	13	15	17	29
VII...	33	31	54	53	19	18	23	36
VIII...	24	24	34	40	11	9	14	27
IX...	28	29	48	47	20	15	15	29
X...	40	25	49	44	18	25	26	40
XI...	44	22	45	35	12	5	12	22

lates through the winter assuring a permanent seasonal covering and allowing the standardization of modes of transport.

Sleighs and skis serve effectively for carrying people and goods. Skill in the use of skis is acquired at a very early age, boys and girls often traveling to and from school by this cheap and efficient means. This training of youth stands the army in good stead during its winter maneuvers or campaigns, since the fact that its members are experts in handling themselves on these devices facilitates cross-country activities. Incidentally the landscape invites the application of the principle of protective mimicry, soldiers wearing long white tunic-like garments as an overdress which renders them less conspicuous than if they exposed themselves to view in their summer dark gray-green or olive-drab uniforms.

The snow offers another valuable service to the nation, making possible the easy skidding of timber from the forest interiors to the streams and in spring constituting the main source of water for the rivers along which the winter cut of logs is floated to the sawmills and to the ports. In some years a snow shortage embarasses the lumber companies, for timber is sold in the season prior to the cutting, at a price based upon the seller's assumption that ample snow will be available for skidding and for the provision of sufficient flood waters for spring floating. If no precautionary clause against an abnormal winter and consequent delay in delivery is inserted into the sales contract, heavy financial losses may be sustained.

The humidity of the air in Finland in absolute terms averages low because of moderate to low temperatures. Therefore the daily average *relative* humidity ranging from 70 per cent to 85 per cent does not imply an un-

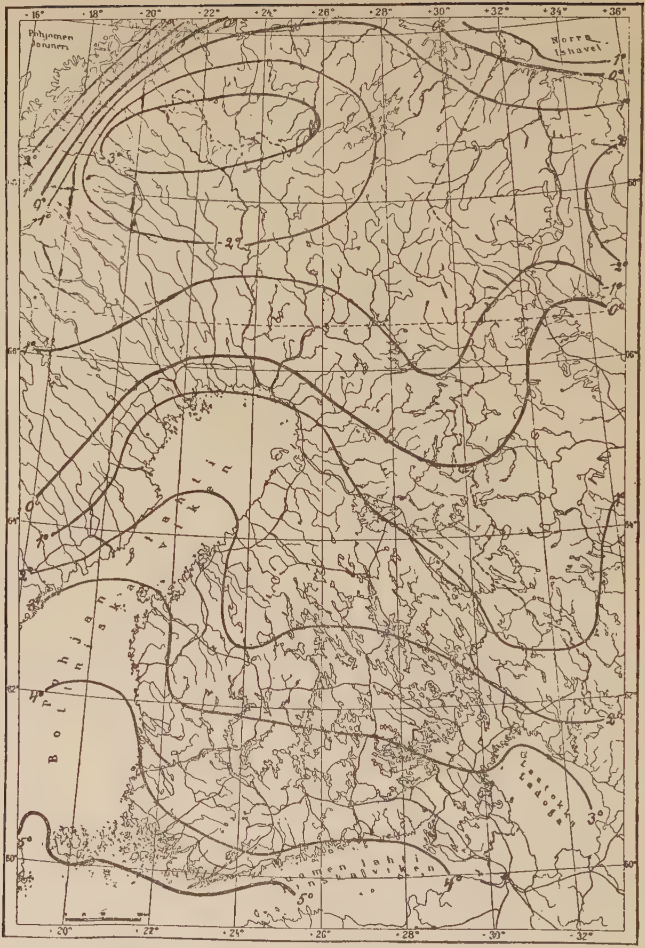

FIG. 11. THE AVERAGE ANNUAL TEMPERATURE IN C°

comfortable sensible temperature such as would be interpreted if the figures were applied to the upper Mississippi Valley, where, for example, a relative humidity of 80 per cent in summer means oppressive heat, and in winter, cold which chills to the marrow. The relative humidity in summer over the lakes and seas exceeds that over the land, but in winter when all the surfaces are snow- or ice-covered the percentages become uniform.

The existence of a humid atmosphere and resultant low rate of evaporation by the plants evidences itself in the abundance and verdure of the vegetation. However, the atmospheric moisture nowhere supports heavy growths of mosses upon the tree trunks, nor does it encourage this label of antiquity upon old houses and medieval castles.

Cloudy days attain a high frequency in all parts of the country as, for example, in Helsinki where the people annually endure 126 days of overcast skies. Cloudiness averages from 65 per cent to 70 per cent, the lesser amount in the coastal areas and the greater in the vicinity of Lake Ladoga and in the far north. The phenomenon of more cloudiness in Lapland than in the coastal regions may be explained by Lapland's location north of the principal path of passing cyclones and by the consequent inflow of relatively moist air from over the waters of the Norwegian and Finnish Arctic coast. Most of the clouds over Finland classify as stratus with a few additional varieties along the coasts. Cumulus clouds and cumulo-nimbus (thunderheads) are rare.

To the farmer a deficiency and uncertainty of sunshine proves a serious matter, for in such circumstances the success of his crops takes on a highly speculative character. He may select crops with regard to a sunshine minimum but even then his problem is not solved since few crops can grow vigorously in the absence of sunshine for days at a time. During the harvest season when all too often the skies are overcast, the farmer gathers his grains into small bunches and supports them upon upright crossbars in which position they shed the rain waters and quickly return to a condition in which they may receive the maximum curing effect of the intermittent sunshine.

The air pressures over Finland result from the borderline location of the country between the vast Iceland low to the west and the continental high pressure area to the east and southeast. In winter the pressure increases from northwestern Finland toward the southeast, and in summer pressures are about the same everywhere. The average winter pressure ranges from 30.2 inches (756 mm) in the north to 30.4 inches (761 mm) in the southeast, while the summer pressure averages in the north about 30.3 inches (758 mm) and the south a trifle lower. Rapid daily and weekly pressure changes are caused by the passing cyclones and anticyclones. These changes in given localities often exceed the average difference between two successive seasons. The pressure may vary as much as .4 inch (10 mm) on a single winter's day or .24 inch (6 mm) on a summer's day, in contrast with an annual range of pressure of only .24 inch (6 mm).

That pressure variability acts upon the body as a stimulus, is the conclusion of those who have studied the physiological and psychological responses of life to the atmospheric environment. If pressure shifts are not too violent the stimulus proves beneficial. On Ellsworth Huntington's human-energy maps of the continents in his *Climate and Civilization,* the southern half of Finland is marked "High" and the southwest coastal strip "Very High." While the map expresses an average of the opinions of many experts who were asked to rank the peoples of the earth according to their degree of civilization, Huntington correlated these opinions with climatic conditions and presents the maps to show the coincidence between a high civilization and storminess. In the opinion of the writer, pressure variability plus the consequent weather changes emphasized by Huntington contribute much to the energy of peoples occupying the cyclonic areas of the earth, to which group the Finns belong.

The prevailing winds with few exceptions, blow from the southwest, although considerable variability in direction occurs throughout the year on account of the passing highs and lows. The winter map clearly shows these storm areas dominant over the wind directions, while the flat summer map indicates the significance of local conditions. At the head of Lake Ladoga and in the territory immediately north, the winds blow frequently from the southeast, while at some stations, more especially along the north Bothnian coast and in the northern interior districts, summer winds blow from the northwest. On the whole, however, the wind-roses for all parts of Finland show more wind from points west of the north-south line than from points east of it.

The wind velocity ranges from moderate to gale strength, the higher velocities occurring mainly in winter. The strongest winds, southwesterlies, attain a velocity of 40 to 55 miles (64 km) per hour fifteen to twenty times between November and March. The maximum velocity usually occurs during the hours from 6 A. M. to 6 P. M. Since these strong winds frequent the coasts rather than the interior, visiting the latter regions only occasionally, it might be supposed they would menace shipping and the fisheries, but they do not prove serious for many weeks, inasmuch as the freezing of the seas at this time checks the operation of these industries.

In addition to the winds induced by the general continental pressure distribution, land and sea breezes play a part in the local climate of Finland, although interrupted at times by the stronger winds of the passing cyclones and anticyclones. In a country where bodies of water constitute so large a percentage of the total surface and are so widely distributed, the land and sea breeze effect assumes considerable economic importance, producing a cool night breeze conducive to restful sleep for the thousands of people who live along the coasts and lake shores. The popular impression that an appreciation of such breezes is confined to the peoples of the tropics or those of intermediate regions where they experience excessive summer heat soon vanishes from the mind of the traveler in these northern lands.

The extent and thickness of the ice along the coasts not only in itself seriously handicaps shipping operations, but, forming when the winds reach their maximum velocity, the ice proves doubly aggravating. Bridging the Gulf of Bothnia and Gulf of Finland respectively, from December to March and paralleling the coasts in windrows 15 to 20 feet (5 to 7 meters) high the ice jeopardizes every ship venturing to run the blockade. It begins to form in the north as early as October, breaking up in April, while in the south it forms about November and goes out in late March.

Although the major shipping activities for most of the ports are determined by the dates of formation and breaking up of the ice, two of the ports Turku and Hanko ignore these dates for they are kept open by ice-breakers. In some winters the ice-breakers give up the attempt to maintain communication at Turku, but at Hanko they make possible the continued receipt and shipment of freight. Since most of the ports are closed during the winter months, and since their opening dates are uncertain, lumber quotations involving delivery dates have recently been protected by the expression "first open water."

Upon the lakes of Finland ice does not greatly handicap transportation, for, as the waters serve as connecting links in summer between land route terminals, so the ice surface serves in winter as merely a continuation of land routes. In fact, the frozen lakes so facilitate transportation that, excepting for a short period during which the ice forms and that when it thaws, they prove to be much more convenient than the the overland roads.

The freedom from ice along the Arctic coast is considered a potential asset. Certainly it gives Finland an outlet the year round, but whether it will ever prove of value from the trade standpoint remains problematical, since the world's primary trade routes are so far removed and rail connections with southern Finland for some time to come will be economically impracticable.

A long dark winter, a short growing season always threatened by frost, a sky frequently overcast, ice formations reducing ease of communication with the outside world—all leave their impress upon the Finnish mind. This environment calls for patience, persistence, courage, endurance, and optimism, all of which the Finns exhibit to a remarkable degree, yet they display a stolidity and phlegmatism which disappear only when they are confronted by some irritating opposition or stirred by a national achievement.

If to the severe climatic handicaps political perplexities be added, then the primary causes for numerous suicides have been listed. The annual number per million recorded in the decade 1901 to 1910 was 65.6, and from 1911 to 1920, 93.1, the increase in the last decade no doubt indicative of the strain of the Russian revolution of 1917 and the Finnish civil war of 1918. The percentage of suicides in the cities is nearly double those in the rural communities and may be accounted for in part by the fact that whenever there is a food shortage the farmer is in a better position to obtain food than the city dweller, retaining, as he naturally would, enough to feed himself, and shipping only the small surplus which would be inadequate to feed the city population. The people of the cities, having no recourse, must go hungry, a circumstance conducive to mental unbalance and consequent suicide.

A few architectural features of the buildings point to certain climatic adjustments. Roofs are steep to discharge the falling snow or, in cases where the pitch is not sufficient to function in this manner, metal projections upon the roof prevent the accumulated snow from sliding in great masses. The farm buildings are arranged in consecutive order with connecting passageways to permit intercommunication when the snowdrifts prohibit access via the out-of-doors. Double windows with a layer of cotton batting on the sill between them help retain the heat within the houses. Unfortunately the virtual sealing of many of the homes, public buildings, and railroad passenger cars menaces the public health.

The rigors of Finland's climate should not be interpreted as giving rise merely to a dull existence. The out-of-doors in all seasons calls to the Finn and well does he heed, for he knows how to enjoy life, given the slightest encouragement. In summer he picnics and holds contests, rowing, walking, running, sailing, swimming, dancing, partaking in every pastime which the season and environment permit; or he rests upon the bare crystalline rocks and basks in the sunshine to derive all the benefits which may accrue from exposure to the sun's rays. He seems to have learned of the value of the sun's energy by experience, as the physiologist has learned of it by experiment. What time can be passed in the open country is so spent; and that not in summer only. Winter beckons and the Finn goes forth skiing, ice-boating, skating, sleighing, and indulging in any other sport which snow and ice suggest. Thus the nearly six months of an otherwise dreary winter possess some compensating factors.

The moderate summer temperatures and winter cold demand of the people the utilization of considerable body heat energy, which is secured through a diet of milk, butter, fish, pork, and hard rye bread. While the first four articles contain a high percentage of fats, sugars are lacking because of the absence of sufficient domestic sugar beets and fruit trees to care for the local needs, and because the price of imported sugar is too high for the purse of the average rural family. The low sugar content and abundance of milk in the diet contribute to the healthy condition of the Finn's teeth; but, on the other hand, the excess of fats induces a high percentage of stomach disorders.

As already suggested, those who survive the climatic rigors of Finland must be physically fit. That they are fit is attested by their employers in the factories, mines, and lumber mills of the United States who unhesitatingly report them as the "finest physical specimens" among all their workers. Further evidence as to their physical condition is revealed by the death rate, which in the pre-war period 1900-1913 was only 17.8 per 1000 compared with 15.4 in the United States. In 1920 Finland's death rate had declined to 15.9 per 1000, compared with 13.1 in the United States. In the light of the ease of life in the United States contrasted with the terrific handicaps in Finland, these figures stand as splendid testimony to the Finn's successful adaptation of his life to his climatic environment.

CHAPTER IV

AGRICULTURE

Historical Development.—Improved Land.—Educational Activities.—Crops: Rye, Oats, Barley, Wheat, Hay, Root Crops, Gardening, Fruits.—Live Stock: Horses, Cattle.—Agricultural Future.

In few modern countries of the world is a larger proportion of the population directly dependent upon the cultivation of the soil than in Finland. According to the 1920 census and current citations, 65.1 per cent of the people derive their sustenance from agriculture, including fisheries, hunting, and silviculture.

The natural conditions under which agriculture must be pursued are so adverse that the support of a relatively large population upon a restricted area presents cause for wonderment. In a region with an unfavorable climate, as already indicated, a soil of poor fertility, and a political system which, until the establishment of the Republic, has opposed private land ownership, a vigorous agricultural development could hardly be anticipated. With high land rentals that absorb small hard-earned profits there has been little incentive for a farmer to cultivate the soil beyond a point which enables him to provide for the immediate family needs.

From the earliest times, agriculture has been an uncertain means of sustenance, though an influential factor in the lives of the people. Burning of the forests as an easy method for clearing and fertilizing the land was practiced by the peasantry until as recently as the middle of the ninteenth century. If this process did not facilitate cultivation, no further energy was expended in soil tillage. In fact, the less exciting, less remunerative, and quite laborious occupation of farming had slight attraction for the people as long as hunting, fishing, and, in the twelfth and thirteenth centuries, sea piracy constituted convenient ways of gaining a living. In those days dairying figured as an important type of farming, judging by the conspicuous place which butter held in the export statistics of the Middle Ages. Some hides and meat also appear among these figures. On the other hand, vegetables, the cereals, and even bread ranked at the head of the list of imports, indicating that crop farming was either inadequate to the needs of the people or did not exist.

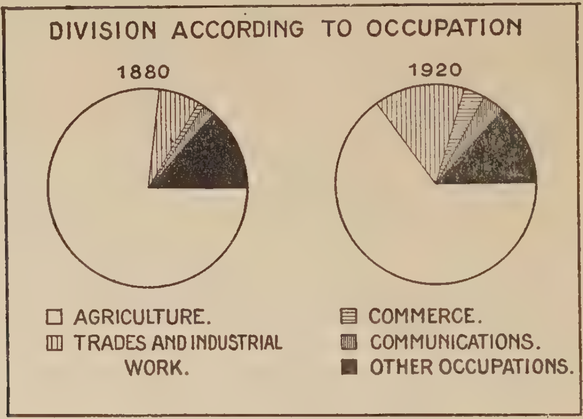

FIG. 12. OCCUPATIONS

In addition to the obstacles cited above as checks against agricultural development, it seems possible that the experiences of the Finns en route to Finland may have played a part. Having crossed the poorly drained northern Russian lands, they had no natural invitation to cultivate the soil. The tribes related to the Finns, still engage only in a limited agriculture, hardly beyond the stage of grubbing in the soil; their primary source of food is secured from hunting and fishing. As they moved from territory with such restrictions into a region with essentially the same physical characteristics, warmed slightly by the southwesterlies blowing from the Atlantic and across the adjacent water bodies, their agricultural evolution must inevitably have been retarded.

When the Finns first settled in Finland they were not experienced enough to differentiate soils in terms of their relative productivity; indeed, until a very recent date, they have shown no particular interest in this direction. On the other hand, the Swedes occupied the fertile river valleys of the coastal plain and the inshore coastal islands near the river mouths. The location of their settlements was undoubtedly at first determined by the accessibility of coastal lands to the sea, by the proximity of the home land on the opposite shore of the Baltic, and by the forested hinterland which was difficult to penetrate; later, experience showed the productive capacity of the alluvial soils to be better than those in the interior or on the divides, and accordingly the Swedes settled upon them. Consequently, by the time the Finns learned of these better lands it was too late for them to attempt their occupancy; and the best thing they could do was to settle upon the less fertile interstream areas, the few small patches of good soil in the marginal territory where the coastal plain passes into the upland lake district, and on the poor interior, often peat-bog, lands.

Had the better soils been available to the Finn, it is doubtful whether he would have consciously located upon them unless other elements were present. Ample evidence is available to point to his seeming indifference to soil quality when selecting a site on which to live. Reference has been made to the Finn's selection of poor soil lands when settling in foreign countries and this will be emphasized later in further detail. Here it should be noted that his choice of settlement involves an inherent desire for independence which leads him at times to isolation; a desire to live upon a hill sloping toward a water body and to enjoy a vista across evergreen and birch forests and in winter across the snow-clad hill-slopes. These factors often influence his choice as much as soil quality.

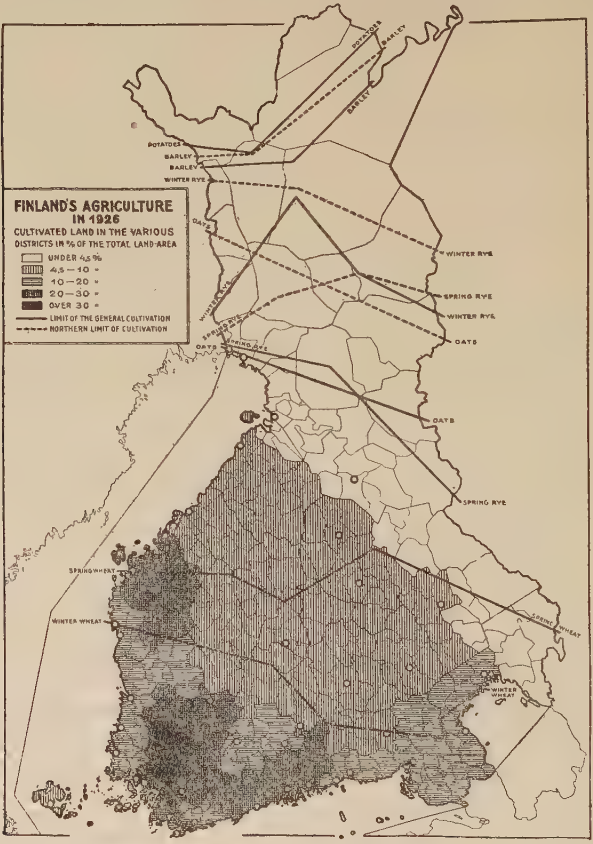

FIG. 13. FINLAND'S AGRICULTURE

The Finn's experience under the Russian régime, when land ownership by individuals of small means was virtually impossible and taxation was exorbitant, made poverty and isolation almost desirable. Not until recently, when the Republic in 1918 provided for a complete reform of the old land laws, was farming stimulated. Under the new provisions, tenants of land, or others desiring to acquire farm land and having the requisite farm knowledge, are given the opportunity to make purchases and to receive state aid in the form of credit. That the law has proved effective is evidenced by the fact that within the first four years of its operation 59,676 properties, most of them located in the southern and western parts of the country, came into independent private ownership. The process of converting leaseholds into proprietorships continues to go rapidly forward. It is estimated that within ten years 300,000 farms will be cultivated by their owners, compared with 110,000 in 1901.

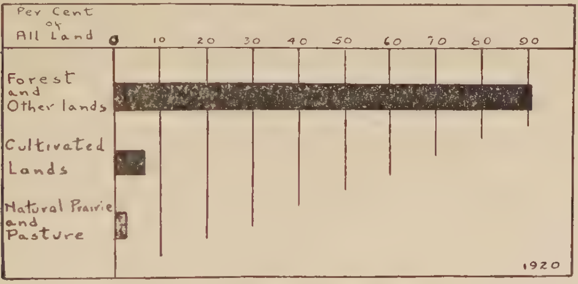

FIG. 14. USE OF THE LAND

In 1920,* 51 percent of the land was owned privately; 39.8 per cent, mostly forests, by the state; 7.5 per cent by corporations; 1.0 per cent by parishes; and 0.7 by municipalities and rural communities. Of

* In 1927 the percentages were 52.1, 39.7, 6.5, and 1.7 respectively — indicating the constancy of ownership by classes.

the cultivated land, involving farms of 1¼ (.5 hectare) acres and over, 73 per cent was under private ownership and 27 per cent was tenanted. The conversion of tenants into landowners has been making steady progress.

Of the total area of Finland, exclusive of the lake surfaces and the newly acquired territory of Petsamo, 6.1 per cent is under the plow. Most of this area, however, is located in western and southwestern Finland, where the proportion of cultivated land reaches as high as 25 per cent. In general, farms are evenly distributed excepting on the Ostrobothnian plain, on the cleared rolling morainic hill country of the southwest, and in portions of the plain about the north end of Lake Ladoga. Nowhere is farm land continuous over great distances; it is interrupted by forests, bouldery soils, or wet lands. The areas under cultivation in 1920, classified according to size of farms, were as follows:

FARMS CLASSIFIED BY SIZE

Areas under cultivation (Hectares)	Number of Farms	Total area (Hectares)* of arable land on farms
0.5- 10	194,732	681,195
10- 25	41,119	616,106
25- 50	11,125	368,274
50-100	2,836	187,011
over 100	937	162,589
Total	250,749	2,015,175

* 1 hectare equals 2.47 acres.

The predominance of small farms is apparent. In the case of the smaller units under cultivation, the area usually coincides with the total area of the farm excepting for the portion, determined in each instance, in timber set aside as a source of fuel as required by law.

The farms may be classified broadly into three general types; namely, primitive, transitional, and modern. The first type, confined almost wholly to eastern and northern Carelia, is small in area, limited in variety of crops grown, and served by buildings and equipment which date back fifty to one hundred years and more in style if not in construction. The land is divided into meadow and forest with occasionally some cereal such as rye, oats, and barley for home use. The live stock consists of horses, cows, sheep, swine, and some poultry; but none are found in large numbers, and frequently none of the last three kinds of animals. Life reduced to its simplest terms is notably primitive and the family is self-sufficient.

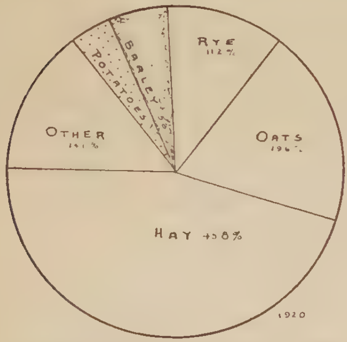

FIG. 15. PER CENT OF CULTIVATED LAND IN CROPS

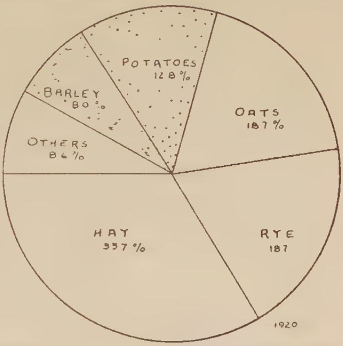

FIG. 16. VALUE OF CULTIVATED LAND IN PER CENT

The transitional type may be said to characterize the major share of Finnish farms. This type is located for the most part in the southeast around Sortavala and Viipuri, in the southwest between Helsinki and Turku, and in the west upon the Ostrobothnian plain.

Remnants of early crude structures may still be observed, but with them and in great contrast stand the newer types of farm buildings. Some of the older buildings have no foundations other than wooden beams resting on the dirt surface while the newer ones have substantial foundations of glacial boulders gathered from the farm itself. The buildings usually go unpainted, but occasionally they receive a coat of red color except the ornate window frames which always are conspicuous for their whiteness. The abundance of wood weakens most arguments in favor of paint as a preservative; but the recent high cost of living, national forestry laws emphasizing and compelling conservation, and general educational activities conducted by both the government and cooperative societies have accomplished much in changing traditional attitudes; consequently painted farm buildings steadily increase in numbers.

On the transitional type of farm, the modern horse-drawn mower is supplemented by workers with the scythe or sickle; the hay rake competes with a platoon of muscular hand rakers and the binder sets a gruelling pace for the farm hands who gather an armful of wheat, oats, or rye and laboriously tie a piece of straw around it. In many instances the modern tool is not owned by a single farmer, but cooperatively by a group, each one taking a turn in its use.

One of the interesting sights at harvest time is the stacking of hay or cereals to dry and ripen. Poles about 25 feet apart are set in rows, perhaps 25 to 40 feet distant. Through this upright which extends 2½ feet below the surface a cross piece is placed about 3 feet above the ground. Another crossbar about a foot above the ground helps to stabilize the upright. The hay is then hung over the crossbar so as not to pack close to the center pole. In a region where rain may fall every three or four days it is necessary, if the hay is to dry within a reasonable period, to make certain that the water entering the hay passes on

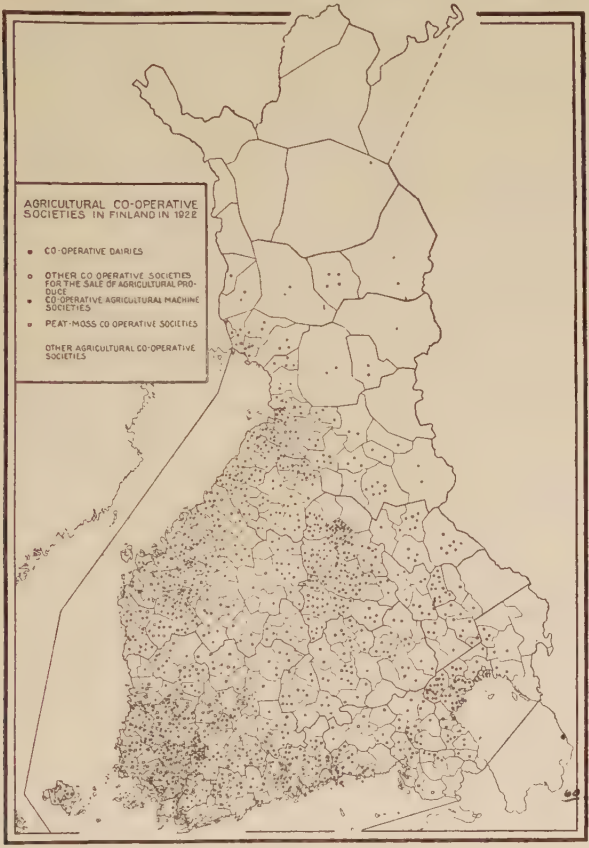
AGRICULTURAL CO-OPERATIVE SOCIETIES IN FINLAND IN 1922
● CO-OPERATIVE DAIRIES
○ OTHER CO-OPERATIVE SOCIETIES FOR THE SALE OF AGRICULTURAL PRODUCE
• CO-OPERATIVE AGRICULTURAL MACHINE SOCIETIES
▫ PEAT-MOSS CO-OPERATIVE SOCIETIES
OTHER AGRICULTURAL CO-OPERATIVE SOCIETIES

FIG. 17. AGRICULTURAL COOPERATIVES

through it. After the hay has been cured it is gathered into the hay barn for winter storage. Autumn rains, heavy winter snows, and spring showers spoil the crop if stacked permanently in the open.

Although there are no more varieties of live stock than on the primitive farm the number of animals, especially dairy cattle, assumes fair proportions. As has been stated dairying has played an important rôle from a very early date, butter always proving to be a valuable cash crop; and, as the resources of the farmer have increased, he has invested in more cattle to return him more dairy products. The abundance and richness of meadow hay has long made cattle raising easy and profitable. Undoubtedly this circumstance has been potent in holding the Finn upon the land and has further influenced his attachment to lands which possess low cereal-crop fertility or which are difficult to cultivate because of boulders.

The modern type of farm, considered in the sense of one fully equipped with modern implements and structures, well-manned and scientifically operated, is still uncommon in Finland. Yet it is not so scarce as to be rare. Crop farming, at all times a rather hazardous business in Finland, does not permit of considerable expenditures either for buildings or for experimental work by the individual farmer.

Agriculture is now well backed by the national government and cooperative societies. Under a law passed in 1923, national experimental work was placed upon a permanent basis, with the consequence that research is conducted by eight institutions. The Experiment Station Record of the U. S. Dept. of Agriculture has well summarized the status of experiment stations in Finland, in the following report:*

> The Central Agricultural Experiment Station situated at Dickursby, Anas, about ten miles from Helsingfors, is operated by the government. It is organized into departments of plant cultivation, agriculture, chemistry and physics, biology of domestic animals, plant bacteriology and diseases, and agricul-

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* Experiment Station Record Vol. 49, No. 4, p. 39.

tural entomology. Each department is under the direction of a professor of the University of Helsingfors, and the staff also includes an assistant and a clerk with university training. Besides comparative vegetable tests, plant breeding is carried on, special attention being given to the breeding of oats. Many students of the agricultural department of the university are given training each year.

The Government Bureau for the Examination of Butter and other Edible Fats is situated at Hangö. Its principal work consists in the examining of butter to be exported from the country, but it also conducts investigations of other food fats. It has a staff of dairy experts and chemists.

The Economic Investigational Bureau of the Agricultural Administration at Helsingfors conducts inquiries based on data procured from several hundred privately owned farms. The chief object is to furnish information in regard to the costs of agricultural production and the profitableness of various sized farms in different parts of the country.

The agro-geological section of the Geological Commission, also at Helsingfors, conducts investigations in regard to soils and prepares agro-geological maps for the different sections. This institution is maintained with state funds.

The Swamp Cultivating Experimental Station of Lettensue, about 75 miles north of Helsingfors, is owned by the Suomen Suoviljelysyhdistys (Finland Swamp Reclamation Society), which receives financial aid from the state. The station conducts experiments in the cultivating, ditching, and fertilizing of swamps. Similar stations are located at Ilmajoki, about 270 miles north of Helsingfors, where special attention is given to pasture studies on peat bogs, and at Tohmajärvi, about 417 miles east of Helsingfors.

The Plant Breeding Station of Tammisto at Malm, about seven miles from Helsingfors, is owned by the Keskusosuusliika Hankkija (Hankkija Cooperative Society). Its work consists in the breeding of the more important plants, and it is under the direction of a trained specialist.

In addition to the foregoing, the cattle breeding societies operating in Finland and receiving state aid conduct, in connection with the keeping of records of purebred stock, investigations in regard to the heredity of domestic animals. Of these societies the most important are the Society for the Breeding of Ayrshire at Helsingfors, the West Finnish Society for the Breeding of Domestic Animals at Karkku (near Tammerfors), and the East Finnish Society for the Breeding of Domestic Animals at Kuopio.

The principal cereal crops—rye, oats, and barley—were relegated to a secondary position during the Russian régime because of their cheaper production in Russia and the tax-free entrance of the Russian product into Finland. Today, with Russian competition eliminated, cereal cultivation has acquired new momentum. In fact, with a free hand since 1917 to utilize modern agricultural methods in the exploitation of the land, Finland has shown her crop possibilities to be more promising than had generally been supposed.

In 1920, crops as indicated above were cultivated upon 6.1 per cent* of the total area, natural prairie and pasture occupied 3.5 per cent of the surface, and forests and water covered 90.3 per cent. Maps showing crop distribution indicate a concentration in the south half of the country but within this half a fairly even distribution. Farms are among the forests, except in the coastal lowlands, and there forests are still important, occupying from 75 to 85 per cent of the area. Even with so great a preponderance of forests, crop and pasture lands have a critical importance. Each farmer must depend upon his own land as a source of food for his family. He can produce little or no surplus except by way of dairy products which furnish him both with food and enough surplus for a cash income. Part of his holdings is in forest, which supplies him with fuel, while in winter the nearby state or private forests provide an opportunity for work which helps to supplement his cash income.

Rye, known to the Finns since the fourteenth century, is considered by them the most important cereal crop, although exceeded by oats in total quantity production as well as acreage planted. Rye constitutes the Finnish "staff of life" since it is easy to produce and readily converted into a hard bread which

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* Although the statistics cited in this chapter are, for the most part, those of 1920, making possible uniformity in comparisons, the data for more recent years show no important changes so far as percentages are concerned.

STACKING THE CROP

HARVESTING

CENTRAL LAKE DISTRICT

CHAIN FARM BUILDINGS

can be preserved for indefinite periods. Rye is produced as far north as the sixty-seventh parallel, but since practically all the people live south of this parallel, climatic location plays no part in the determination as to whether or not the crop may be grown. In 1920, 11.2 per cent of the country's cultivated acreage was planted in winter rye and 0.3 per cent in spring rye.

The acreage devoted to oats production is 19.6 per cent of the total cultivated area, the largest acreage for any crop except hay. Grown practically as far north as rye and wherever farmers desire to sow the seed, it has served as a dependable crop of high value for the support of live stock. In the fourteenth century the oats crop was negligible compared with rye, but the harvest today is nearly double that of rye, a direct response to the growing interest in live stock.

While the area devoted to barley production is small, only 5.8 per cent of the total cultivated acreage, in certain localities it is ranked as the most important crop. Being least sensitive to frost among Finland's cereal crops it holds first place among the crops in northern Finland both in acreage and production, being grown as far as the parallel of 68°N.

The cultivation of wheat, compared with other crops, is as yet in the experimental stage. While planted here and there in the southwest, only one-half of one per cent of the total cultivated area supported wheat in 1920 — three-tenths of one per cent in winter wheat and two-tenths of one per cent in spring wheat.

While some wheat has been grown occasionally in every part of the south half of Finland, as much as 45 acres (18 hectares) in 1923 were planted in the northern district of Oulu yielding about 35 bushels. The element of risk is so large that wheat production in northern Finland must still be looked upon more as a matter of general agricultural interest than in the light of a significant economic crop.

Hay, occupying 45.1 per cent of the cultivated surface, may be considered Finland's most important crop because of its abundance, its ease of production and its support of the dairy industry. Hay grows practically everywhere, 84 per cent of the hay acreage being in natural meadow. In the meadows cattle may graze for three months in the year and still have sufficient grass for cutting to insure an ample supply for winter feeding. This favorable condition for the support of cattle makes dairy farming the most reliable form of Finnish agriculture.

Here again attention may be directed to the influence of the agricultural possibilities of the region upon the Finn's attitude toward soils. The bog lands in many instances produce excellent hay and even for grazing are quite as good as better drained areas; consequently, since the Finn may count upon the success of the hay crop more than upon any other, he is readily satisfied with land which will produce hay, regardless of its other possibilities.

Among the root crops, potatoes stand pre-eminent Although the acreage is small compared with other food crops — only 3.5 per cent of the total cultivated area — the production has until recently exceeded that of all other food crops. Potatoes are produced everywhere, supplying an important food, although they constitute a somewhat uncertain source because of their sensitiveness to frost. Other root crops such as sugar beets, turnips, and radishes are unimportant.

Despite the fact that truck gardening received attention as early as the beginning of the nineteenth century, production today is far below what it should be.

The first Garden Association, purely local in character, was founded in 1820 at Turku, followed in 1837 by the first national garden organization. Today a number of associations materially assist in reducing the national dependence upon foreign sources.

The preservation of vegetable products, while not unknown, has been, until the post-war years, of rare occurrence. In a country with a short growing season but with the possibility of producing more in that period than can be consumed, failure to preserve the summer surplus means a sheer waste of food. The situation is showing improvement, thanks to the educational campaigns of manufacturers of canning equipment, agricultural cooperative societies, Martha societies, and local organizations.

A possible resource of which Finland has not taken the fullest advantage is honey production. With sugar relatively high in cost, and with a strong urge for energy-producing food in the diet, the demand might well be met through the utilization of honey. With Finland's wealth of clover and seemingly endless expanses of nectar-giving fireweed, bees could surely fill a sufficient number of combs to make a substantial contribution to the country's sugar supply and enough besides to winter themselves. Bee culture is not experimental in this north country, its success having already been demonstrated by a few apiarists. Many more could profit by establishing small apiaries.

The fruits of Finland consist of two principal varieties, tree fruits and berries, the former, apples and pears, scarce and inconsequential, the latter plentiful. Berries are obtained about as readily from nature's generous distribution through the woods as from cultivation. Strawberries, gooseberries, preiselberren (a type of cranberry), and blueberries, constitute the principal types of berry fruits. Finland has been called "strawberry land" because of the abundance of wild strawberries from which the rural folk derive a neat profit by selling them upon the public market or at the railroad stations. The people cultivate them too, and produce a fruit which in size and quality compares favorably with the strawberries of England.

The same statements which were made with respect to vegetable canning apply to fruit preservation. The importation of dried fruits or of costly canned fruits could well be reduced by the canning of home grown products.

Interest in animals other than dairy cattle and horses has never been widespread until in very recent years, when sheep, swine, and poultry have received considerable attention. In the extreme north, in the region of Lapland, reindeer have long served the few scattered Lapps. No statistics are available as to the number of reindeer, but general observation indicates there are not many. Swine and sheep are still relatively few, and cattle for meat purposes limited. Dairy cows and horses predominate.

Resembling the Shetland or Siberian types, characteristically northern cold-climate animals, the horses of Finland are small, stocky, strong, but highly nervous animals, most of them native to the region. These animals have been bred in Finland so long that they are now considered as indigenous. In 1910 the number of horses per thousand population was 96 while in 1920 it was 93 per 1000, a negligible decline.

In 1920 the number of cattle totaled 1,173,861 milch cows and 20,333 bulls, all over two years of age, and 630,047 cattle under two years. These animals are for the most part native, only a few Ayrshires and Holsteins occurring in the southern districts. Foreign cattle do not thrive as well as the native. Farmers show partiality to the Finnish cow because it not only requires less food than foreign animals but gives milk with an exceptionally high butter fat content and easily withstands the rigorous climate.

The economic importance of the cow in the development of the country has already been suggested in the discussion of the dependability of the hay crop. The subject will be discussed again in terms of the dairy trade of Finland, always conspicuous since the Middle Ages. However, it is worth noting in passing that the value of the annual milk production is estimated at ten times that of the meat supply.

Finland's present and potential cultivable area under the prevalent climatic conditions cannot produce crops in sufficiently large variety to support the present population in comfort and in a manner permitting progress unless the forests and the products manufactured from them be included in the term "agriculture." Since the Finnish farmer refuses to concede forestry a place in his agricultural program and since it can be shown that without industries Finland could not maintain its position among the world's modern nations, the consideration here of the agricultural future of the country is confined to a consideration of the areal limitations under the national policy of forest conservation, the utilization of peat bogs, and the possible adaptation of crops to the environment.

Reference has been made to the fact that from 60 to 75 per cent of the surface is wet, consisting of 11.55 per cent in lakes, 30.8 per cent in peat bogs, and the rest in poorly drained lands other than peat bogs. In addition, there are scattered rock exposures, areas where the soil covering is so thin as to eliminate all possibility of crop cultivation, and some practically useless bouldery morainic deposits. If the area of the latter lands be estimated as about 5 per cent of the total — a conservative estimate — then there remains for potential cultivation, exclusive of peat bogs, approximately 30 to 40 per cent of the country.

The reclamation of the peat bogs appears on the whole to offer no serious engineering problem. Many of the bogs have been cultivated for centuries, and certain of them, where not too deep and where clay has been available for mixing with the peat, have shown a satisfactory yield. Their value as forest lands has been demonstrated both by the government and by private lumber companies that have drained some bogs and set out seedlings.

A careful study of the bogs already under cultivation inspired the Finnish Bog Society to establish experiment stations for the purpose of determining quantitatively the possibilities of bog cultivation. This society, organized as early as 1894, set up the following objectives:

1. The survey of peat bogs, carried out scientifically and practically;
2. The carrying out of experiments in the cultivation of peaty soils;
3. Consultation on all questions connected with the utilization of the peat bogs.

The society concludes that the "prospects are enormous," especially for the growing of feed for cattle. It has shown that under proper treatment oats, turnips, and hay may be grown with considerable success. Although attempts have been made to use peat as moss litter, German and Scandinavian competition handicap development in this direction. Undoubtedly the best use to which the bogs may be put lies in their utilization for hay production and the consequent possible expansion of the dairy industry.

On the optimistic assumption that all the peat bogs can be reclaimed, primarily for hay and secondarily for a few root crops and possibly some grains, the area available for agriculture would appear to be 70 per cent of the whole country. This figure includes 6.1 per cent now under cultivation, 30.8 per cent peat bog and 33.1 per cent in forest or other uncultivated land. But the forests occupy 73.5 per cent of the total area distributed over both peat bogs and well-drained lands. If to the latter figure the water area of 11.55 per cent be added, making a total of 85.05 per cent, then at best only 14.95 per cent of the total area, and not 70 per cent, is available for cultivation without encroaching upon the forest lands. Since only 6.1 per cent of the land is now under cultivation, 8.85 per cent is left for improvement; a portion of this percentage, however, is in peat so that not the whole figure can be added to 6.1, but rather only about two-thirds of it. In other words, about 12 per cent of the land, exclusive of the forests, may be considered as the maximum percentage of Finnish territory available to crop cultivation.

If an attempt be made to determine the possibilities of future crop production in Finland, a comparison of yield per acre with that in Sweden throws some valuable light on the situation. The percentage of increase in Finnish crops necessary to equal Swedish yield per hectare (2.47 acres) based on the yields for 1922 are: wheat 52 per cent, winter rye 31 per cent, barley 36 per cent, and oats 23 per cent. These figures indicate that Finland might possibly increase its crop yield per hectare about 35.5 per cent under Swedish methods of cultivation. Partial exception must be taken, however, because the highest yields in Sweden occur in Scania (Skåne) in the south and Norrland in the north where the fertility of the soils is much higher than that of Finland, and also because much of the agriculture is maintained exclusively upon the alluvial river bottoms, whereas in Finland a considerable part of the cultivated lands and those available for expansion include large areas of the interior infertile soils. If the production on the poorer Swedish soils be used as a basis for comparison, Finland's yields might be increased about 20 per cent. In view of these latter figures and those pertaining to the fluctuations in the yields per acre, in view of the impossibility of notably expanding the acreage for crops without reducing the forest resource, and further because of the impossibility of materially increasing the variety of crops on account of climatic handicaps, Finland cannot hope to become agriculturally independent. To hold her own among the modern nations she will have to supplement her agriculture by a strong industrial development.

CHAPTER V

THE FORESTS

Distribution. — Forest Management. — State Lands. — Private Lands. — Forest Land Sales. — Conservation. — Educational Work.

The forests of Finland constitute her principal wealth, for although in summer 65 per cent of the population depends directly upon agriculture for its livelihood, a large part of the same population shares in the logging operations of winter. Most of the timber cut then goes to purchase the nation's imports, without which it could not progress. The forests furnish the fuel for heating the homes, as well as for generating the power used in the manufacturing industries and for operating most of the railroads. They likewise supply structural materials, except for the newer public buildings constructed from stone. Even in their erection, however, wood plays an important part.

No country of Europe can boast so high a percentage (73.5 per cent) of forest land as Finland. In terms of acreage the country ranks second among the European nations. Although second to Russia, her forests are much more accessible, thanks to a network of waterways leading from the forests to seas open to navigation nearly nine months of the year. The overland haulage distance to the waterways averages 2 to 2½ miles, occasionally as great as 10 miles and rarely 20. An assured winter snow covering facilitates the skidding of logs to the rivers, which have a well-timed spring flood and flow direct to the sea. These rivers afford an economical means for getting the timber to the ports, where it is prepared for export. The general ease of access of Finland's forests gives them a continually enhanced value, for they stand among the foremost of the world's reserves that are located close to the primary consuming markets.

Most areas of Finland favor forest growth, the few exceptions being the scattered rock exposures, some swamps, and the tundra of Lapland. About one-third, 9,000,000 acres (3,600,000 ha.), of the total swamp and peat-bog surface has no forest, while those swamps which support virgin trees are not included among the true forest lands since they offer neither favorable conditions for existing trees nor for replanting after the original stand has been cut. Accordingly, the land is classified into "productive forest land," which in-

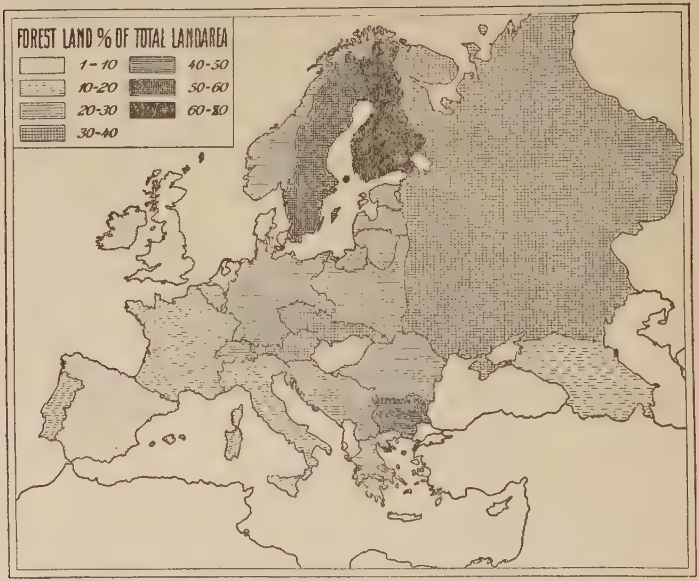


FIG. 18. FOREST LANDS IN EUROPE

cludes 58.6 per cent of the total land area, and "forest lands of poor growth," constituting 14.9 per cent of the total area.

The forests are classified further into three general types according to the nature of the vegetation on the floor. They are: Grove forests, with birch (*Betula odorata and Betula verrucosa*) predominant, Fresh forests with spruce, and Heath forests with pine. The estimated proportions of the above species are: birch 17 per cent, spruce 25 per cent, pine 55 per cent, and others 3 per cent, of which one-half represents treeless areas. The distribution of these species has been altered as a consequence of the age-long practice of burning the forests in order to fertilize the soil with their ashes. Wherever the spruce has been burned the pine has succeeded, and where the pine has been subsequently fired the birch has followed. Therefore the present distribution is somewhat different in the settled parts of Finland from what it would be if man had not acquired the habit of "burn-beating." Burning of the forests is now forbidden by law and in its stead conservation is the order of the day.

Every farmer owns a small piece of forest land from which he obtains firewood and lumber for buildings, implements, and utensils. Wood is so essential that no one thinks of purchasing farm land without including a bit of forest. The Land Reform bill passed in 1922 provides among other things that tenants taking advantage of the right to purchase their leaseholds may redeem as much as 20 hectares of cultivable land and such "a sufficiency of forest land as will supply at a normal rate of growth the amount of wood unavoidably necessary for household need."

The need for wood in cities and towns is likewise of paramount importance. Small timber not otherwise desirable as lumber reaches the public market in short lengths for firewood. Cuttings, which in countries like the United States are considered waste and burned as slashings, bring profitable returns.

The annual consumption of wood in Finland, according to the many purposes for which it is used, follows:

	Per Cent
Tops left in forests	9.1
Home use in towns	3.5
Home use in rural districts	40.9
Transportation not including railways	1.3
Railways	2.2
Fuel in industries	8.0
Export in unrefined state	10.6
Raw material in industries	24.4
	100.0—37,299,000 cu. meters

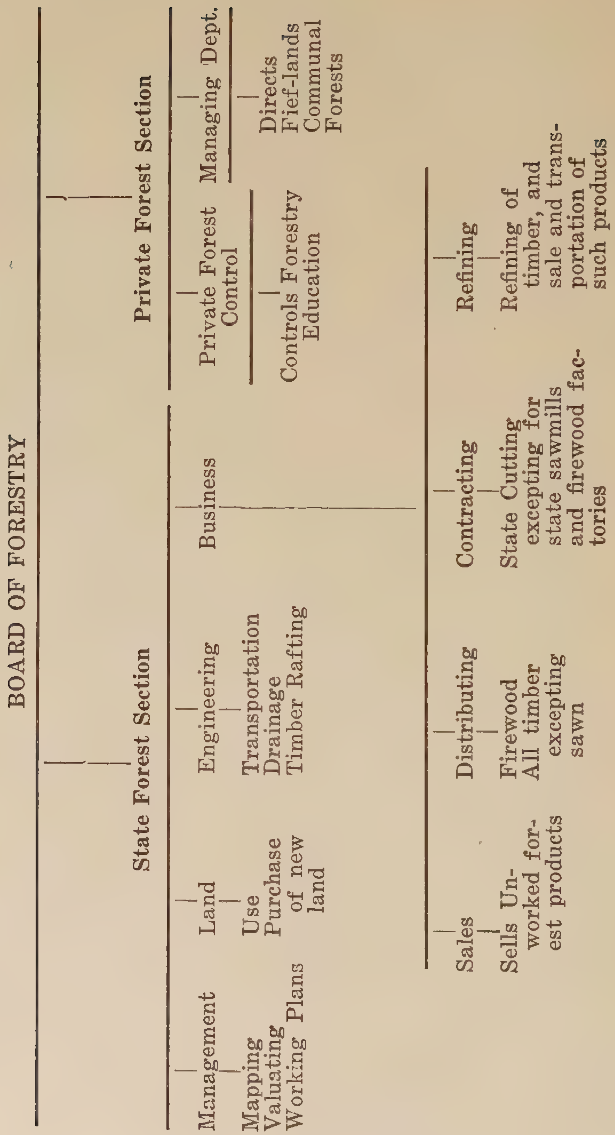
The combined percentages of the consumption for fuel in the home and fuel in industries, namely, 52.4 per cent, testifies to the importance of wood in the life of the country.

The national management of the forests, though evolved in a similar manner, has shown more progress than in most countries. After numerous shifts in boards, departments, committees, and other organization divisions, and with an appreciation of the critical significance of the forests to the welfare of the nation, a reform bill was instituted in 1921 with the following outstanding features. The Board of Forestry is divided into two sections, the State Forest Section and the Private Forest Section, with consolidated finance, secretarial, and statistical staffs. The State Forest Section includes four departments: (1) management, (2) land, (3) engineering, and (4) business. The first department maps the land, places a value upon it, and organizes the plan of work. The Land Department purchases new forest lands for the state and determines their uses. The Engineering Department supervises transportation facilities and drainage, while the Business Department, as might be anticipated, assumes responsibility for the sales of timber, firewood, and forest products.

The state owns 38.9 per cent of the forest lands, not all of which are productive. These lands were acquired for the most part in 1542 when Gustav Wasa, King of Sweden and Finland, declared the lands of the northern part of the country—then, as now, very sparsely populated—as the property of "God, the King, and the Crown of Sweden." Only the uninhabited portions of the land, however, reverted to the state. Since the early settlers located along the rivers, the state acquired the divides, which in many instances are the least desirable lands because of their distance from the waterways.

During the latter half of the eighteenth century a "re-parceling" of lands took place which involved the legalization of lands held by the "squatter" settlers and the definition of boundaries. There were then left "wild and superfluous lands" which the state retained. Better lands were acquired when the state recently purchased "gift-lands" (lands which the czars of Russia had presented to the nobles as occasion developed) for purposes of sale to the tenant farmers. These lands are decidedly better than those taken by King Wasa, as they are located in southeastern Finland in the vicinity of Viipuri, a delightful farm and forest area.

The Private Forest Section is divided into two departments, the Private Forest Control Department, which supervises educational work among private owners, and a Managing Department which supplies working plans for fief lands. These lands, formerly given


BOARD OF FORESTRY
State Forest Section
Management
Mapping
Valuating
Working Plans
Land
Use
Purchase of new land
Engineering
Transportation
Drainage
Timber Rafting
Business
Sales
Sells Unworked forest products
Distributing
Firewood
All timber excepting sawn
Contracting
State Cutting excepting for state sawmills and firewood factories
Refining
Refining of timber, and sale and transportation of such products
Private Forest Section
Private Forest Control
Controls Forestry Education
Managing Dept.
Directs Fief-lands Communal Forests

in payment for military service, are now being absorbed by the government as the private leases upon them expire.

Before the government fully realized the significance of the forests to its general welfare, and the consequent importance of conservation and development, private corporations had purchased large tracts to insure themselves of ample supplies. These companies had gained control of so much land (7.5 per cent of the nation's forest lands supporting the best stands of timber) that in 1915 a law was passed prohibiting further acquisition. To their credit, be it said, these corporations have shown a generous spirit of cooperation toward the national government in matters pertaining to forest improvement.

Lands owned by individuals and rural communities, which amounted to 51 per cent of the forest lands, are widely scattered but mostly in the south-central and southwestern parts of the country. They are the better lands generally and in the present state of development show a high percentage of forest.

The state sells some of its standing timber on contract in competition with private owners. This method has proven beneficial to the government, because small timber may be disposed of along with the larger trees, while at the same time the mode of cutting and transport may be easily controlled. However, most of the timber is sold at auction and under this plan frequently only the larger trees can be sold leaving in the hands of the government the smaller ones, difficult to market. The government has found it profitable to cut the small timber which it cannot otherwise dispose of and sell it direct for firewood, railway ties, pit-props, and other purposes. Just how far this method of sale may be carried without serious

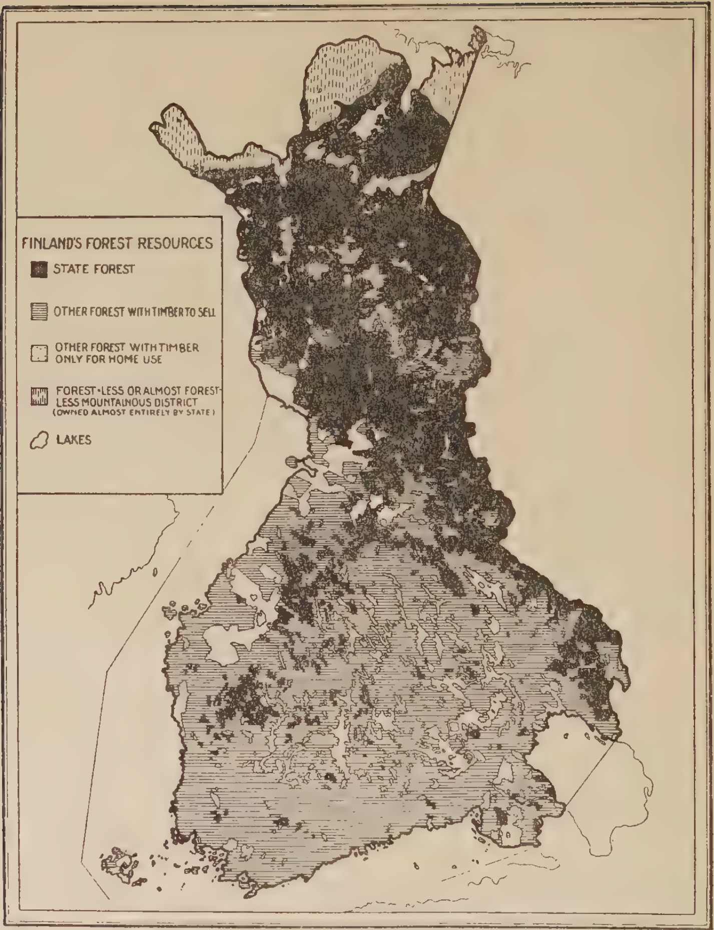

FINLAND'S FOREST RESOURCES
STATE FOREST
OTHER FOREST WITH TIMBER TO SELL
OTHER FOREST WITH TIMBER ONLY FOR HOME USE
FOREST-LESS OR ALMOST FOREST-LESS MOUNTAINOUS DISTRICT (OWNED ALMOST ENTIRELY BY STATE)
LAKES

FIG. 19. FINLAND'S FORESTS

interference with private enterprise, experience only will reveal.

Of further interest is the sale of wood by municipalities, many of which own large forest tracts. During the period 1905-14 the people of fourteen towns obtained most of their wood from their respective municipal forests, and sixteen towns supplied themselves fully, in a few cases having a surplus for sale to other centers. Illustrative of city forest ownership are Kajaani with 23,800 acres (9520 ha.), Kuopio with 9,700 acres (3880 ha.), and Oulu with 8,725 acres (3490 ha.).

As already indicated the national government has taken the initiative in conservation. After prohibiting "burn-beating," the Diet enacted legislation requiring selective cutting and systematic replanting. The trees are cut in relation to their rate of growth so as to provide an annual crop of predetermined sizes. Where natural seeding after cutting or after unavoidable fires is ineffective or proceeds too slowly, seedlings are set out. Reclamation of bog lands for forest development is in process, about 40,000 hectares out of a possible 2,000,000 having already been reclaimed.

The conservation laws regulating private forests focus upon the elimination of slashings and upon reforestation, including the selection of trees best adapted to particular environments. These laws are enforced by the District Forest Committee or the local Parish Forestry Committee.

Under the present regulations the forests of Finland as a whole show an annual increment of 44.4 millions of cubic meters while the cutting rate is 40.0 millions, leaving a favorable balance of roundly 4 millions of cubic meters. The increment is not uniform for the region, for in those parts most easily accessible the rate of cutting often exceeds the rate of natural increase. However, regulatory measures now insure to Finland a permanent annual crop.

The educational activities in forestry have been in keeping with the progressive tendencies in other educational fields in Finland. Numerous silvicultural societies have been organized among the land owners, some societies falling within the category of cooperatives and functioning not only as promoters of improved forestry but also as selling organizations. One society for the improvement of private forestry known as "Suomen Metsanhoitoyhdistys Tapio" serves as a sort of clearing house for twenty-two agricultural societies and nearly five hundred small local organizations. It is virtually a cooperative society subsidized by the government; in 1922 the latter subscribed 75,000 Finnish marks (exchange rate 2.5 cents). The Pellervo Society (Finland's central educational organization for her 3500 cooperatives) also operating in part under government subsidy, has been effective in fostering intelligent forest development. Five professional forestry societies lend their aid in the promotion of improved silviculture.

While the national government supports forestry schools and a research institute as noted below, its subsidies to private organizations in 1922 amounted to 856,000 Finnish marks. This represents about 16 per cent of the subsidies appropriated for agricultural purposes, exclusive of the forests, and indicates something of the importance which the government attaches to her forest development.

There are five forest schools,* four conducted in Finnish and one in the Swedish language. The course runs through two years, involving both theory and practical work, admittance being based upon an elementary school education. Graduates are employed by various public and private organizations as forestry foremen. A school for instruction in sawmill work is supported jointly by the state and private companies for training foremen to direct forest cutting crews, to manage rafting, and to supervise sawmills.

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* One each in Lummi, Atsari, Joroinen, Rovaniemi, and the Swedish School in Tammisaari.

The University of Helsinki offers advanced work in forestry leading to a Ph.D. degree. Students are encouraged to enroll preparatory to entering the field of forestry research offered in a special institute for the purpose. Practical experience is included in this institute training, in order that the men may fully appreciate the reality of the problems submitted for solution. The institute attacks only such problems as cannot be undertaken by individual enterprise.

The government has just completed a detailed survey of the forests, convinced of the dependence of the nation's progress upon the permanence of its timber supplies. The published results of this survey should stimulate those farmers who seem unable to appreciate their own dependence upon the forests; who rank the food supply above the timber resources, forgetting that the country as a whole cannot now and perhaps will never be able to produce a food surplus, or even sufficient foods to maintain the present standards of living; who oppose industrial development, overlooking the fact that any movement which contributes to the general welfare benefits the individual. In the words of the head of the Business Department of the Board of Forestry: "The forest policy of the government must always conscientiously weigh its effects upon the industries and the national economy of the country as a whole. For, as the climate and geographical location of Finland prevent the country from competing with others in the supply of grain, and as we are likewise lacking in coal and oil fields and in workable deposits of ore, our economic life is definitely linked to the production of our forests."

CHAPTER VI

INDUSTRIES

Manufacturing — Wood Products: Timber, Paper, Cellulose and Pulp, Plywood, Bobbin, Tar — Dairy: Cheese — "Valio," The Dairy Cooperative.— Foodstuffs, Textiles, and Other Industries.— Industrial Future.— The Industrial-Agrarian Problem.

Finland's manufacturing industries, dating from the Middle Ages, have only recently assumed significant proportions, the number of persons engaged in the industries having trebled in the past forty years. The primary industries classified under the general heading of Wood Products include timber, paper, cellulose, wood pulp, plywood, and bobbin manufactures, while the more important of the secondary group include foodstuffs, textiles, and tar production, formerly a thriving industry. Other industries, all on a diminutive scale, involve the production of items having but local importance.

The production and export of timber and other wood goods play a critical part in Finland's national finance, as indicated by the monthly and annual reports of the Bank of Finland. For example, a typical statement reads:

> The combined results of these factors is that the demand for credit among the timber industries generally shows a constant growth during the winter until, with the coming of open water, timber can be exported and payment received for the cargoes. The summer months show then a rapid improvement in the state of the money market.

Further, the wood products industries exert a direct influence upon the personal economy of the people. Of the total number of persons engaged in all industries, 45 per cent (about 45,000) find employment in the manufacture of wood products, and great numbers close to 200,000 at times, assist in logging operations during a period of four to six months. Many of the latter operatives, belonging to the farming class, turn to the lumber industry during the non-growing season to earn ready cash for carrying on through the long hard winter and for supplementing the farm earnings, all too often inadequate for maintaining a family in modest comfort.

If the number of people be considered who depend wholly or in part upon the timber industry, the latter's economic significance to the country becomes still more impressive. Calculations in Finland have shown that every worker in the sawmills has two other persons dependent upon him. If the same ratio be adopted for all employees in the wood products industries, the number of people whose living is obtained by this means approximates 650,000, one-fifth of the national population.

The raw materials entering into the wood-working industries of Finland have consistently averaged, since 1911, between 97 per cent and 99 per cent domestic. In contrast with these figures consideration of the percentage of domestic materials utilized for all manufactures, namely 59.6 per cent, clearly emphasizes the dominant position of timber in the nation's manufacturing industries.

Boards and rough timber, as well as small finished articles such as spoons, bowls, forks, tubs of all varieties, and almost every kind of utensil that can be fashioned out of wood, appear in the itemized lists of exports as early as the Middle Ages. Wood has been the most valuable Finnish export since the thirteenth century when shipments of heavy timber were made to England and Holland via Lübeck. The ease of access to the forests and their high quality created so large a demand for their timber that government regulation was instituted to prevent their exhaustion. Restrictions were so drastic as to obstruct, temporarily, the normal development of the lumber industry.

In 1600 a law was enacted limiting the annual output of any sawmill to 10,000 logs and curtailing the sawing season. At the end of the season official seals fastened to saws and waterwheels frustrated those who attempted to break the laws. Again in the nineteenth century, when the steam-powered sawmill came into common use in many countries, in Finland it was prohibited until 1857, but by 1861 all opposition to the free development of the timber industry disappeared.

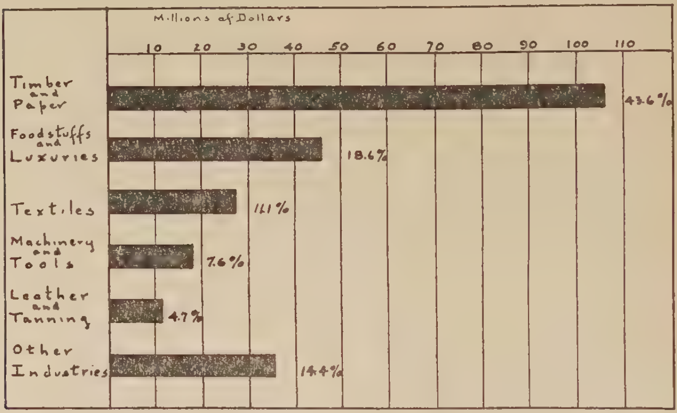

FIG. 20. RANK OF INDUSTRIES ACCORDING TO VALUE—1923

Then followed a shift in the location of the mills. They had been scattered along the streams wherever rapids were available to turn the wheels and where wood was plentiful, but when steam freed them from the waterwheel they moved to the river mouths. The first steam sawmill was built at Pori (Björneborg) on the west coast in 1862. Others followed rapidly at

Kotka, Hamina (Fredrikshamn) and elsewhere, until today they total over five hundred, the largest and most important distributed along the coast. In the new location, the costs of production are materially reduced and the efficiency of the mills generally raised, for the logs can be floated at low cost to the mill, sawn according to market demands, and loaded direct on board steamers which carry the lumber to the world's markets.

Although the oldest lumber mill in Finland, located in Viipuri, dates from 1790, the progress of the timber industry can be best measured from the middle of the nineteenth century when statistics begin to show some reliability.

NUMBER OF SAWMILLS

	Water Power	Steam Power	Other Power	Total
1850	167	0	0	167
1875	148	61	0	209
1885	186	94	0	280
1895	207	220	0	427
1907	164	444	3	661
1923	......	......	......	489
1926	......	......	......	513

The reduction in number of mills since 1907 represents largely consolidations and improved technique in operation of new mills. As further evidence of these influences, production of the mills has increased more rapidly than the number of persons employed.

The export of Finnish timber, as previously indicated, has played a vital part in the welfare of the country from early times. The primary markets have been in Europe, but certain shifts have occurred as a consequence of the war and the establishment of a republic. Before the war, Finland's best customers were, in order, the United Kingdom, France, Germany, Holland, Belgium, and Spain — the United Kingdom being the largest and the most important. With the resumption of international business after the war, Sweden and Denmark entered the list of important customers, with Great Britain still in the lead. Holland, France, and Belgium followed next. Spain dropped out almost entirely in a spirit of retaliation because Finland adopted prohibition and ceased buying Spanish wines.

The present tendency is strongly toward finishing more wood at home and shipping less in the crude form, and to that end the mills have been improved since the war. While many of them are as modern as any in the world, some still utilize the rather cumbersome methods of a former day. But progress being the keynote in Finnish industry, the latter condition will not obtain much longer.

Next in importance to the lumber industry is the manufacture of paper, cellulose, and pulp, the rapidly increasing production of which promises to make Finland a principal source of supply for the world.

The first paper mill was established in the parish district of Pohja, in southern Finland, in the latter half of the seventeenth century, and by the end of the eighteenth century inconsequential mills were scattered throughout the country. One of these, now the oldest in Finland, still stands in Tampere, while the second oldest, dating from 1818, is located at Tervakoski. The small output of these early mills was not of good quality, but after 1860, when the manufacture of wood pulp for paper was begun, the quality of paper improved and the cost of production fell, thereby giving the industry new momentum. Pulp and paper manufacture, now concentrated in the south, principally in the vicinity of Kotkamon on the Kymi River, Enso on the Saimaa, and at Tampere on the Pyhäjärvi system contribute materially to Finland's export column.

Before the war Russia absorbed nearly 80 per cent of the paper export, while most of the pulp and cellulose went to England, Germany, France, and Belgium, only about 20 per cent of the latter entering the Russian market. Since the war, particularly since 1918, the industry has undergone critical changes, for Russia which had absorbed the major share of the paper production disappeared from Finland's list of customers. The paper industry suffered much more than the timber industry because it had depended so largely upon a single outlet and now had to seek new markets, a most difficult task with producers like Sweden, Norway, and Canada as competitors. However, by concerted action of the paper interests, the industry was consolidated and the world market entered with suc-

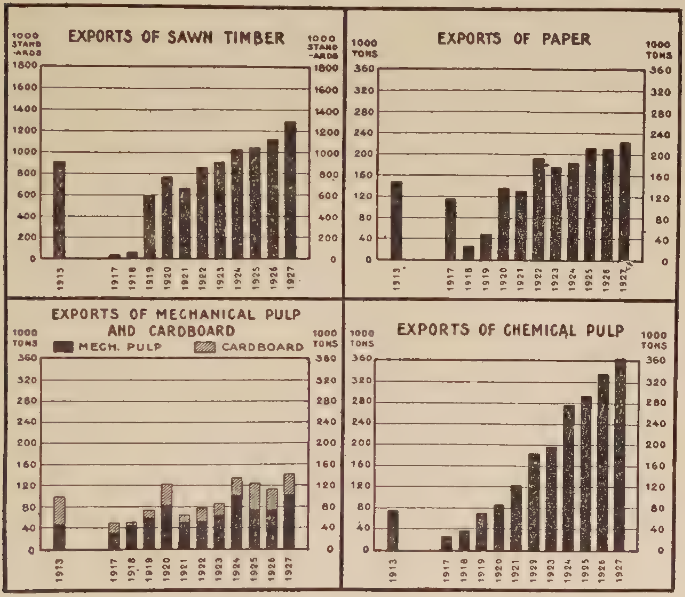

FIG. 21. EXPORTS OF PRINCIPAL INDUSTRIAL PRODUCTS

cess, England, France, Holland, Germany, even the Scandinavian countries, parts of South America, and Asia becoming important buyers. Even Russia is coming back, her present purchases being limited only to Finland's willingness to assume a large credit risk. The United States figures prominently in chemical-pulp purchases, being Finland's ranking customer for this commodity.

The progress of the paper and cellulose industries is well shown in terms of the exports because of the insignificant domestic consumption. Curves showing the trend of the industry during the past quarter century reveal tremendous gains, the cellulose output, for example, having increased twenty fold. The growth of the industry is further shown by the building of three wood-pulp mills during the period 1915-22 with a total annual production of 29,000 tons (26 million kg) and by the modernization of established cellulose mills. During the period 1914 to 1922, nine cellulose mills were erected, increasing the annual output for the country by 140,000 tons (127 million kg.) and thereby tripling the pre-war capacity. In 1926 the industry counted 49 wood-pulp and cardboard works, 25 cellulose mills, and 28 paper mills, producing a total of nearly 987,000 tons. There are unimportant scattered factories for the production of finished paper products such as wall paper, bags, envelopes, etc.

The prospects for continued development are bright, because Finnish industrialists have the resources, the technique, business acumen, and the energy to work. Through such well-organized cooperative efforts as "The Central Association of Finnish Woodworking Industries," "The Finnish Cellulose Union," and others, a still further increase in production is assured.

The first factory for the manufacture of plywood or veneer began operations in 1912, at Jyväskylä, in the heart of the birch forests. Most of the factories are distributed with respect to the forests, being located in birch, aspen, or alder regions in the central and east-central portions of the country in accordance with the variety of plywood manufactured. When the Great War gained momentum, developing a vast market for airplanes, into the construction of which plywood entered, the industry received a stimulus assuring its future. This advantage, coupled with the simultaneous destruction of the industry in Russia in 1917, places Finland at the top of the column of the world's veneer wood producers. The figures in the accompanying table not only illustrate the exceptional rapidity of growth of the industry since 1913, but, like other industries already discussed, emphasizes Finland's capacity for industrial development:

PLYWOOD INDUSTRY

	Establishments	Employees
1913	3	229
1915	4	399
1917	5	597
1920	7	1037
1921	9	1555
1922	10	3551
1926	15	3815

Most of the output goes to England (the largest customer), Denmark, Holland, Belgium, Sweden, and occasionally Japan. As the world may eventually look to Finland for its reserves of paper and pulp, so may it find this region a primary source for plywood, Russia and possibly Canada being the only other countries likely to offer competition.

The bobbin industry, begun in 1873 with the building of a mill at Mäntsälä during the European "boom" period following shortly after the Franco-Prussian War, slumbered for thirty-two years, when it acquired new momentum after the political reform of 1905-06. It received a temporary setback when the Great War opened but has once again forged ahead. The world's largest bobbin factory, located at Kuopio in easy access to the birch forests, has an output per week of 47,000 gross (6,768,000) spools, while the combined production of the factories organized under the name "Finnish Bobbin Manufacturers' Association" reaches 12 million gross per year — one-half of the world's production.

Like the plywood industry, this one depends upon the export market for the sale of its product, selling to England, France, Holland, and Belgium—new markets created since the war, the pre-war outlets having been primarily Russia and Germany.

A peasant industry for centuries, tar collection and its preparation for the markets attained large proportions until in modern times the rapid rise of the timber industry and the practice of conservation opposed the ruthless destruction of the forests by tar collectors and discouraged the further development of the industry.

Reliable statistical records of production do not go back many years, but some idea of the size of the industry in the middle of the last century may be gained from the figures issued by the port of Lübeck in 1858 showing the receipt there of 20,352 tons of tar and 534 tons of pitch, and also from the general historical accounts which affirm that as many as 80,000 casks (about 55 lbs.—25 kgs each) were gathered for export at one time at the mouth of the Oulu River. At the peak of the industry's growth in the eighteen-nineties annual shipments reached 3,960,000 gallons (150,000 hectoliters), while today less than 264,000 gallons

(10,000 hectoliters) leave the ports. The export figures show the fluctuations in the industry, since only negligible amounts of the product are retained at home, Denmark taking most of the present output.

EXPORT OF TAR

	Value in Millions of Finmarks (Former value 19.3 Cents)	Per Cent of Total Exports
1885	2.3	2.55
1890	2.5	2.65
1895	2.3	1.64
1900	1.4	.70
1905	1.1	.44
1910	0.7	.24
1915	0.5	.19
1920	*0.5	.15

* Estimate based on Annuaire Statistique de Finlande, 1924.

Tar collecting as originally practiced involved the cutting of the pine trees in winter and burning them in "tar-pits," at the bottom of which the tar accumulated. Then in spring and summer the tar was placed in casks and floated to the seaports. Today the trees are saved for their valuable timber, and only the stumps utilized for making tar and turpentine. These are extracted by the distillation process wherever accessibility of the stumps warrants the setting up of distillation equipment.

An interesting change in location of the export centers has been effected with the establishment of a rail link between Kajaani, the principal tar-collecting town in the interior and Kotka on the south coast. Before this time the casks were loaded in long shallow tar-boats which were navigated through 21 miles (35 kms.) of dangerous rapids in the Oulu River to Muhos, and thence 20 miles (33 kms.) on more placid waters, to the port of Oulu. Some tar went to Vaasa (Vasa) as well, but Kotka, being more easily accessible than the west coast ports and visited by more ships, has attracted the tar via rail, leaving only storage sheds at Oulu as reminders of a former thriving industry.

The records of Finland's commerce with Lübeck indicate that butter was the leading Finnish dairy export during the twelfth and thirteenth centuries. It has continued among the country's important shipments, although not at the head of the list. During the early part of the eighteenth century butter production was stimulated by an increasing Swedish demand and the sway of Swedish Mercantilism, which imposed a strict regulation upon butter sales.

Active interest in butter manufacture throughout Finland appears from the fact that as early as 1848 every port of consequence shared in the shipments, although Turku, by virtue of its productive hinterland, its long navigating season, and its proximity to Sweden, shipped 38 per cent of the country's total.* Butter production is concentrated in a few centers as a consequence of the organization of cooperative creameries. Butter production has steadily increased until in 1926, 20,062 tons were produced, of which 13,212 were exported. Production is encouraged by government subsidies and the maintenance of a laboratory and warehouse at the winter port of Hanko.

Practically all of the exported butter reaches England, a small amount from private shippers finding its way into Denmark where the Danish label is applied and the product re-shipped.

Cheese manufacture, although small and variable in amount, slowly attains a place in the world's markets even in competition with Holland's best brands. Production is encouraged by the cooperative societies and the national government. In 1926, 5,288 tons were manufactured, of which 2,887 tons were exported.

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* Detailed data relative to the commerce in butter are cited in Chapter X, Foreign Trade.

Flour milling, sugar refining, baking, candy and tobacco manufacture, and canning of fish rank among the more important of the manufacturing industries involving the preparation and preservation of foods. These constitute about 8 per cent of all manufactures.

The foodstuffs industries show a fair development consistent with the aims of the people to import fewer goods ready for consumption and instead to buy the raw materials and finish them at home. In the case of tobacco, listed here for convenience as a food, sufficient is manufactured from the domestic crop to provide a small surplus for export.

The textile industry, originally one of the handicrafts, has grown during the last thirty years into a modernized industry, reducing the importations of finished textiles from 75 per cent of the domestic consumption to 40 per cent. The industry is concentrated in Tampere where abundant water power is available.

Finland has not been endowed with iron and coal resources as have Germany, France, and England, and consequently possesses no natural basis for the organization of important iron and steel industries. She has recently uncovered valuable copper deposits at Outokumpu in southeastern Finland near the falls of Imatra. When the present works for the extraction of the crude ore are completed, it is estimated that the mines will produce annually 100,000 tons. Practically all of the ore concentrate will be exported. Her abundance of timber and the potential power in her swiftly flowing streams present an opportunity for the establishment of many industries in which iron and other minerals are not a prime requisite but in which electrical power may be effectively utilized. The estimated available horsepower in the rivers is 2.5 millions, about 9 per cent of which is now harnessed. When the power plant at Imatra is completed an additional 150,000 h. p. will be developed. It is planned to run a high tension cable carrying 110,000 volts to Turku, a distance of 222 miles (370) km.), with a branch cable to Helsinki. This power will relieve the railroads' steam locomotives and also supply manufacturing industries. Other developments, particularly in the Päijänne and Näsijärvi systems in the west, will prove a boon to the embryo industrial efforts of this part of Finland.

Finland has a serious problem associated with the construction of dams and other works for the conversion of the flowing waters into power producers, because facilities must still be maintained in the streams for log floating and navigation. This has meant extra construction costs in many instances, and in a country sparsely populated and limited in resources, the financial burden becomes so heavy as to make possible only small appropriations at a time, thereby delaying industrial development longer than the people desire.

A possible source of power hardly beyond the experimental stage lies in the burning of peat. A few factories manufacturing paper and glass have used peat, but as yet the few efforts to market peat as industrial fuel have failed. The cheapness and greater efficiency of wood has offered too keen competition, and the costliness of drying peat in the open in a country where climatic conditions are unfavorable has further militated against the development of the peat fuel industry. However, it undoubtedly has a future which may be realized when wood and water power are exploited to their limit.

Fewness of needs marks the simple life of a somewhat remote agricultural people, but when remoteness is eliminated through rapid and cheap means of communication such as the telephone, railroad, automobile, and radio, then the demands of the people increase,

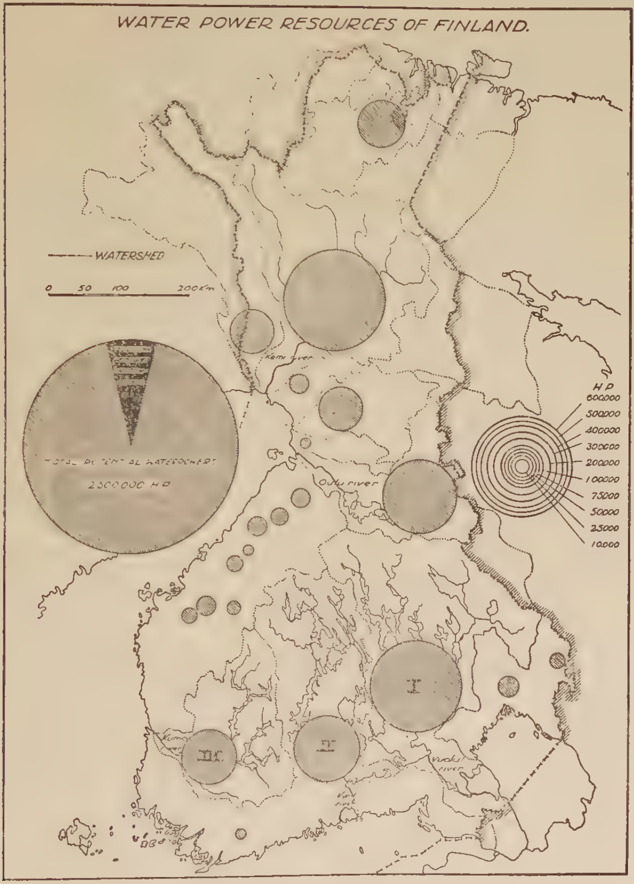

FIG. 22. WATER POWER
I. The Saimaa. II. The Pāijānne System. III. The Nāsijārvi System.

notably for commodities which make living more comfortable. Life becomes more complex and hence offers an incentive to industrial development.

Of the raw materials utilized in Finland's industries, an average of 59.2 per cent originate within the country, although the paper industry draws 84.8 per cent of its raw products from domestic sources, timber 98.2 per cent, and the graphical (printing) industry 94 per cent. Eliminating these three industries with their exceptionally high averages, the average for all industries equals 47.2 per cent, still nearly one-half of the total materials used. By the conversion of these domestic raw products into the finished form and with the aid of her surplus of timber, peat, stone, butter, cheese, hides, and a few other items, Finland should be able easily to pay for her imports and include among them more than her bare necessities.

The country's industrial possibilities loom large and, if given a fair opportunity to develop, undoubtedly can help in the maintenance of a high degree of prosperity. It remains for the agricultural interests, thus far reluctant to cooperate with industry, to appreciate the benefits which an industrial development would bring to them, as well as to those directly engaged in the industries.

Perhaps the most serious obstacle to the industrial development of Finland concerns itself with the lack of harmony between industrialists and agriculturists. The opposition between the two groups has strongly manifested itself in Parliament where the political parties have aligned themselves clearly with one faction or the other.

The Industrial party has 34 representatives in the Diet or 17 per cent of the whole. The Agrarian party has 52 representatives which, together with 10 members of the so-called Progressive party forming the Center, totals 62 or 31.0 per cent of the entire Diet of 200 members.

The Industrialists champion the manufacturers' interests, of course, but also show an active interest in all movements which seem likely to contribute toward the general welfare. They believe the future of Finland lies as much in its timber reserves as in its agricultural development, to which they are in no way opposed. On the other hand, the Agrarian party, while serving the agricultural interests, urge the utilization of land for crops other than timber. It fosters the improvement of the economic status of the farmer, but assumes an anti-industrial attitude. Its leaders assert that the wealth and progress of the country depend upon the productivity of the soil, excluding from the category of soil-crops the production of forests.

It has been shown that half of Finland's raw materials, including many foodstuffs, must be imported and that payment therefor must be made primarily with the products of industry. Furthermore, the most optimistic estimate of the agricultural future cannot foresee any possibility of an agricultural surplus sufficient to pay for the raw materials, unless timber and its products be considered agricultural. In the period 1919-21, 86 per cent of the exports, according to value, were industrial goods including forest products and only 8 per cent agricultural. In 1927 agricultural products exported rose to 11.7 per cent of the total exports. It becomes at once apparent that, were it not for the industrial exports, largely wood products, those engaged in agricultural pursuits could hardly hope to sustain themselves excepting in primitive fashion.

CHAPTER VII

COOPERATION IN FINLAND

Organization Period. — The Pellervo Society. — Cooperative Wholesale Society, "S. O. K." — Agricultural Cooperative Society, "Hankkija." — Farmers' Cooperative Wholesale Society, "Labor." — Butter Export Society, "Valio." — Rural Banks' Credit Institute.— Elanto Cooperative Society.

The cooperative societies of Finland enjoy a marked success. Their membership is largely rural in character and consequently their activities are environed by an agricultural atmosphere. Having observed the success of cooperative associations in the British Isles, Denmark, Germany, and other parts of Europe, the Finns concluded that if properly adapted to their own situation, similar organizations should prove profitable within their own territory.

Leaders of the cooperative movement in Finland define the scope and function of a cooperative society as follows: "A cooperative society is a union of persons, established according to principles of equality, the number of whose members is not limited. The purpose of the union is to improve the financial position of its members or the conditions under which they carry on their profession, by means either of pure self-help, or of self-help with government support; provided that all profits made by joint action shall be distributed in proportion to the extent to which each member has taken part in the business, and not in proportion to the capital invested."

It is rather striking that the cooperative movement finds its best support and largest stimulus among the people of small or only moderate means. It seems to appeal to the wealthy only when their reserve is threatened. Ordinarily a country of great wealth does not constitute fertile ground for cooperative growth. When, however, the cost of living rises and the struggle for existence by individual effort begins to become a serious problem, then farmers and even city dwellers turn to each other for help.

Cooperation demands the highest type of honest, intelligent leadership. Fortunately for the Finns, this fact was appreciated early, resulting in careful studies of the limitations of the cooperative movement and consequent constructive building for the future. One of the outstanding limitations involves the kind of goods sold. Specialties are taboo. A quick turnover is essential and this can be accomplished with a minimum of risk if only such goods are handled as are in greatest demand. Cooperation is limited to such fields as involve the working effort of each of its members. It is not an investor's business. The membership must be fixed in place of residence, and also must have essentially but one business interest. In other words, cooperation cannot succeed if intended for speculative gains. It must have as its objective service to its members and the maintenance of the common good.

For forty years prior to 1899 scattered attempts were made to organize cooperative societies. None attained permanence. It remained for the Pellervo Society, established in 1899, to give the movement sufficient momentum to carry it to success. The organizers of this society saw in the failures of earlier efforts certain weaknesses and set about to remedy them. Education as to the significance of cooperation and in the operation of cooperative societies seemed to be the first essential. A clearing house which might correlate the work of the various societies of the country was deemed of next importance. The Pellervo Society set itself the task of serving both as an adviser, through the publication and distribution of informational literature, and as a connecting link among the societies interested in taking advantage of such service.

In its initial year the society sent out from Helsinki nearly two hundred specially equipped young men to discuss cooperation with the people and to encourage the formation of societies where there were none. In this work the society was a pioneer, for the population was scattered, transportation facilities were poor, the people themselves were not well educated, and their inclinations were more largely in the direction of individualism than toward community effort. These field operations, of course, were purely in the nature of propaganda. They were well supported by the public press. Here it should be observed that, in spite of the limited training of the people, they are enthusiasts for literature, whatever its nature, and consequently the informative pamphlets distributed by the field men of the Pellervo Society, as well as the discussions in the press, were given careful consideration. With a people willing to listen and to read, any project offering convincing evidence of its value to those concerned is headed for success.

The Pellervo Society functions today as the key to cooperative stability in Finland and has done its work so well that the national government renders it financial aid in support of its splendid educational services. In many respects it serves in a capacity similar to our U. S. Dept. of Agriculture and Bureau of Foreign and Domestic Commerce, or like our State University Extension Divisions. The people of Finland owe a great debt of gratitude to the foresight and energy displayed by the organizers of the Pellervo Society.

Beginning with three cooperative stores in 1901, the number has increased to over 4500 cooperative institutions of all types, with a total membership in excess of 500,000. Nearly one-half the population of Finland is associated either directly or indirectly with the cooperative societies. Not only have the numbers grown but the variety of lines of business has increased. The outstanding cooperative organizations include the following types: retail general merchandise stores, dairies, restaurants, cafés, bakeries, groceries, rural banks, agricultural-machinery buying societies, peat-moss societies, wholesale houses, and export firms — primarily for agricultural exports. While this successful development has been notable, one must remember that it was not accomplished without overcoming many obstacles. From 1908 to 1912 all that had been accomplished in previous years was seriously threatened. The year 1908-09 especially was one of financial stringency in Finland and bankruptcies were frequent even up to 1912. In the four-year period 76 cooperative stores, 16 cooperative dairies, 2 rural banks, and 19 other societies became bankrupt In addition, the financial status of numerous organizations had been weakened and their respective memberships reduced.

The adherents of the cooperative movement were not to be discouraged. The Pellervo Society analyzed the situation carefully and determined to profit by the observations. It had to pursue a policy of retrenchment in its own affairs, but at the same time it consolidated ground. The numerous failures revealed certain internal weaknesses in the societies, and suggested a new basis for their organization. Perhaps the most impressive revelation was the lack of proper cooperation among the societies themselves. Here was Pellervo's opportunity to make the people see the necessity for a series of central organizations which might well serve as clearing houses for societies whose interests were alike. This effort led to the establishment, by 1915, of five central organizations as follows:

I. The Finnish Cooperative Wholesale Society — "S. O. K."*

2. The Agricultural Cooperative Wholesale Society — "Hankkija."

3. The Farmer's Cooperative Wholesale Society — "Labor."

4. The Butter Export Cooperative Society — "Valio."

5. The Rural Banks' Central Credit Institute, Limited.

Later five more societies were added as follows:

1. The Finnish Cattle Trade Cooperative Society, Limited.

2. The Export Society, "Muna," Limited.

3. The Enigheten Society — a cooperative of dairies operated by the Swedish-speaking population.

4. The Forest Owners' Central Timber Co., Ltd.

5. The Cooperative Wholesale Society — O. T. K. (Osuustukkukauppa) — an offshoot from S. O. K.

These have not attained the magnitude nor prominence of the first five and therefore detailed consideration is omitted.

For the most part the membership in these societies is made up of farmers. They are widely distributed and considerable distances apart. Opportunity for joint meetings is therefore slight, especially in the winter time, a period of six or seven months. Information relative to the progress of societies and manner of their conduct can be disseminated only by two methods. The direct lecture method can be employed during the five to six months' summer period or the mails can be utilized the full twelve months as a medium for printed discussion. The latter plan has proved the better, resulting in the publication of *The Finnish Cooperative Journal* by the joint efforts of four of the first five central societies named above. The third one has not functioned in this effort.

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* These letters are the initials of the Finnish name for the society. Most of the societies have long names, not always convenient to use.

"The Finnish Institute for Cooperative Education" also came into being, supported by the central societies. It offers short courses in different parts of the country, including in their instruction such subjects as dairy management, store management, commercial arithmetic, the theory of cooperation and other allied topics. These courses last from three to six weeks and are offered several times a year. The attendance at the courses range from a thousand to fifteen hundred annually. The Pellervo Society plays an important rôle in the development of this work.

The Finnish Cooperative Wholesale Society — "S. O. K." is the central society that supplies the retail cooperative stores. It is a cooperative of cooperatives. The retail stores are owned by the consumers, who thereby assure themselves of high-quality goods at regular market prices. Sales are made to all people who wish to buy and no price discrimination is made. The consumer member, however, has one advantage over the non-member, namely, sharing in the profits of the business at the end of the year in proportion to his purchases during the year. All business is done on a strictly cash basis. Nearly one-half the membership of these cooperative stores consists of farmers. This is in striking contrast with the status in many countries where cooperative stores and the cooperative movement, in general, is fostered by the workingmen of the cities.

The Wholesale Society is known in Finland, in common parlance, as "S. O. K." These letters are the initials of the Finnish name—Suomen Ossuuskauppajen Keskusosuuskunta. The popularity of the shorter name is readily appreciated. "S. O. K." was organized in 1904 and met with immediate success. It ranks first among the cooperative societies in point of sales, having enjoyed a business of 700 million Finmarks (rate of exchange, 2.52 cents) in 1925. The profits of the business are distributed as follows: "At least three-fourths is transferred to the reserve fund until this latter attains the same amount as the total of the shares subscribed; when this is the case, at least a quarter of the profit goes to the reserve fund. Out of the remainder a dividend of not exceeding 6 per cent is paid to the shareholders. From the balance left, a bonus may be paid to the buyers, in proportion to the total of their purchases during the year. If there is still something left, it may be transferred to a so-called deposit fund, which is used towards the popularization of cooperation or else for some purpose for the common weal." All cooperative societies in Finland are based upon a shareholding plan, only members buying the shares. Each member also assumes a liability risk, the amount being usually stipulated. The liability is fixed and is based on the cost of each share.

The business of "S. O. K." is devoted to the handling of foodstuffs, dry goods, hardware and miscellaneous merchandise. It has also entered the production field and now manufactures matches, brushes, underwear, paper, bricks, bicycles, and lumber. Fruits are preserved, coffee is roasted, and a water-power plant has been built to generate electricity for lighting and manufacturing uses. Warehouses are maintained in many parts of the country for the convenient distribution of goods. A laboratory on the society's own property inspects all goods purchased and produced. A considerable quantity of wares is imported. For this reason buying offices have been established in New York, Rio de Janeiro, London, Berlin, and Copenhagen.

The success of cooperative organizations depends upon a careful control of credits. In this respect, of course, they do not differ from any other business enterprise. While the retail stores sell for cash only, they may buy from "S. O. K." on credit terms, just as some of our cash-and-carry stores sell for cash only, but purchase from the wholesale house upon short term credits. In the absence of mercantile credit agencies such as we have, the central cooperatives set up their own control. "S. O. K." reserves the right to audit the books of the member stores at any time it believes an audit desirable. It does not have this power in the case of non-members, but since essentially 75 per cent of its customers are members, the credit risk is not large.

"S. O. K." does a considerable amount of educational work among its members as well as prospects. We might term some of these efforts propaganda but such propaganda as is issued by this society is sound. It circulates a weekly paper, "Yhteishyvä," meaning "Welfare," to nearly 100,000 people; "Samarbete" meaning "Collaboration" is printed in Swedish and reaches about 20,000; "Osuuskaupalehti" meaning "Cooperative Trade Journal," published bi-weekly, has a circulation of about 4000. In addition, miscellaneous literature is circulated as occasion demands.

Among other interesting achievements of this remarkable cooperative society may be listed a pension fund for members and employees, a fire insurance society, and a savings bank to encourage thrift among all of the cooperators.

In the early days of the Pellervo Society, the farmers were encouraged by it to buy collectively. Soon cooperative buying societies were formed and these furnished the basis for "Hankkija," the Agricultural Cooperative Wholesale Society. This society was organized in 1905 for the purpose of buying all kinds of agricultural goods at the lowest prices possible, to be sold in turn to the farmer's cooperative buying societies and even to individual farmers not members of the cooperatives. The society now buys agricultural machinery of all kinds, fertilizers, seed, motor cars, oil, cement, and a host of other products such as farmers need. In more recent years it has expanded its activities somewhat, engaging in the sale of hides, skins, and seeds.

"Hankkija" is the largest cooperative organization of its kind in Finland. Its membership, representing every part of the country, includes individual farmers as well as groups. The individual membership may not exceed one-third of the total membership. Furthermore, individuals may not purchase goods intended for those not associated with their farms. The distribution of the funds is in some respects similar to that in "S. O. K." Interest at the rate of 6 per cent is paid to the shareholders. Under the present rules, 60 per cent of the annual profits is placed in the reserve fund and will continue to be until this fund reaches 25,000,000 Finmarks. A bonus may be paid to the buyers in proportion to their purchases. The amount is determined each year in accordance with the financial condition of the society and the interest which will serve it best.

Ten per cent of the profits are placed in the deposit fund.

"Hankkija" issues educational literature, especially along the lines of the use of modern implements and machinery of all kinds that may facilitate the work of the farmer. It cooperates with various organizations of the country whenever such joint effort is desirable to bring about better agricultural legislation and the general improvement of the farmer's condition. It owns experiment stations, a nursery, seed-cleaning station, flour mill and machine shops.

The Farmers' Cooperative Wholesale Society, "Labor," an organization established in 1897, differs from "Hankkija" primarily in the constitution of its membership. It places no limitation upon the number of individual farmers who may become members; in fact the majority of the membership is so made up. Most of the members, however, are Swedish speaking. The farmers have equal voting power with that of the member societies, since the latter are always considered as units and are privileged to cast only one vote. Thus a farmer's vote is as important as a society's vote.

Shares in "Labor" are $10 each and initiation fees range from $10 to $100, in accordance with the decision made in any annual meeting. Reference has already been made to the liability risk which members of Finnish cooperative societies must assume. In "Labor" the liability is specified as $200. If the purchases of a member exceed $1000 annually, another share must be bought and with it a total liability of $400 must be assumed. The distribution of funds, sharing of dividends, and payment of bonuses follow a plan quite similar to that in "S. O. K." or "Hankkija."

"Valio," the Butter Export Cooperative Society, is the pride of Finland's cooperative interests. It approaches the ideal and represents the climax success of all the cooperatives engaged in the sale of goods. It is strikingly different from the other organizations in that its business is almost entirely export. Only recently has it ventured into the realm of retail selling in the domestic market. Nearly 85 per cent of the dairy products exported from Finland is handled by "Valio." The principal market is England. Small shipments reach Germany, Russia, and even the Scandinavian countries.

With 34 members in 1906 when work began, the membership has grown steadily until in 1927 it reached 670. Cooperative dairies and dairies privately owned are accepted as members, provided they meet the exacting qualifications set up by the central association. The cost of membership and division of profits follows the plan of other cooperatives, excepting that after a dividend of 6 per cent is paid to the shareholders, funds remaining over are distributed among the dairies in proportion to the value of the goods which they have sold to Valio during the year.

"Valio" is the only central cooperative whose headquarters are not in Helsinki. The port of Hanko, kept open throughout the winter period and from which all of Valio's products are exported, is best suited to serve as the base of activities. Here is a very modern warehouse and laboratory. All butter is shipped to this point by the farmers, sampled, tested, and stamped with the official seal if it meets all requirements. If rejected, the butter is either returned to the owner or sold on the domestic market at a price in accordance with its grade. Every keg (standard size 50 kilograms) is tested, not just one in a lot. In this way only perfect butter enters the export market.

"Valio" has done for the dairy industry in Finland what our government—city, state, and national—and what our agricultural schools have done for the industry in the United States. Standards have been raised, farmers have been taught how to maintain high-quality products, how to care for cows, and, in general, the best methods for operating a thoroughly modern successful dairy. At the same time, prices have been adjusted upon a world market basis and the returns to the farmers have been proportional.

Not only has butter production been placed upon a proper plane, holding its own alongside of Danish butter, but cheese manufacture, poultry raising for egg production, and apiaries for honey have been encouraged and developed as a consequence of "Valio's" efforts. Finnish cheese has lately dared to compete with Holland cheese and has won recognition.

"Valio" has expanded its field somewhat, in the last few years, to include the sale of margerine, lard, cocoabutter, canned meats, fish, and dairy accessories such as salt, paper, and casks. Like other central cooperatives, educational work has been given due emphasis. Men are sent out to inspect cattle, examine dairies, and to discuss matters of mutual welfare with the dairymen. A periodical is distributed entitled "Karjantuote," that is, "Cattle Products." A very complete annual report is issued, in which appears not only statistical data covering the provinces of the country, giving the results of tests and analyses, but also a review of the year's work and a discussion of national legislation affecting the industry, as well as other matters of important interest to the members of the association.

General banking is frequently conceded to be one of the types of business which does not readily fall in with the plans of the cooperative movement because a bank normally has among its owners people who do not personally engage in its actual physical operation. In Finland, a cooperative organization is considered to have the possibilities of success only when its members are directly engaged in the conduct of its business and whose interests are very largely, if not solely, concentrated upon its operations.

On the other hand, it was early recognized that capital is quite essential to the agricultural development of new lands, and that pioneer farmers are not in a favorable position to borrow from private banks because of the limited resources which they can offer as security. Rural banks court danger when they extend farm credits unless their capital is very large and will stand a considerable strain. In order to avoid such risks, a request was made to the government for permission to organize a cooperative association which might serve as a source of capital for the farmers. Permission having been granted, "The Rural Bank's Central Credit Institute, Limited" with a share capital of $60,000 was organized in 1902.

In the early stages of the Credit Institute, many individuals subscribed because there were too few rural banks to swing the proposition. Today, however, the rural banks have an increasingly important part in the control of the funds and eventually will be entirely independent of private shareholders. Loans have been made to the institute from time to time by the Finnish Government on most liberal terms. Occasionally interest has been entirely waived. In fact, without these government loans, it is doubtful whether the organization could have survived. Some of the loans need not be returned excepting at such time as the Credit Institute should decide to discontinue and "after other lenders have been paid."

The rural banks are limited in the granting of loans to their members to funds which are to be expended only for "the improvement of their agriculture, or other means of livelihood carried on by them." Further, loans made towards the purchase of agricultural necessities are issued with the understanding that the goods will be bought from some central cooperative organization. Again, "only subscribers to periodicals dealing with cooperation and agriculture" may receive loans, and whenever exceptionally large credits are requested for use in "bringing new land under cultivation, plan of work and estimate of the cost must be submitted for approval."

The Central Institute extends credit to the rural banks and thereby makes it possible for them to operate with a good margin of safety. In order that the institute may have necessary protection it reserves the right to examine the books of the rural banks annually, or oftener if it seems desirable. The latter pay 4½ per cent interest, but may "pay in to the Central Institute without previous notice any amounts they may have on hand in excess of their requirements." They may likewise draw out this money without previous notice. The dividend to shareholders is limited by the government to 5½ per cent as the maximum. This regulation has been set up because of the government's liberal terms and to prevent speculation.

Thus the cooperative credit organization is in part based upon a paternalistic system. Some Finnish enthusiasts for the cooperative movement insist that all cooperation must have government support. This, however, seems not to have been conclusively demonstrated, judging by the success of cooperative organizations without government grants.

In 1924 there were 1,170 cooperative credit societies. The number is increasing steadily. There have been no losses to date, even in those cases where the societies have discontinued business. The societies generally have aided in colonization work in Finland. Loans have been adjusted with a sympathetic understanding of a farmer's problem. Payments by him are made easy. It is because most of the societies have been organized by farmers that they so fully appreciate the agricultural situation. These societies are no longer in the experimental stage, but are a permanent part of the rural life in Finland.

The Elanto Cooperative Society differs from those thus far described in that, while it is partially a producer, it is primarily a retail distributor. It was established in 1905 with the former President of Finland, Mr. K. J. Stahlberg, as one of the members of the board of directors.

Business was actually begun in 1907. It seems that the bakeries in Helsinki were operated very unhygienically and that, as a protest to this condition, Elanto was organized and a bakery built. The original intention was only to distribute and not to manufacture goods, but the baking situation had attracted so much attention that the first objective of the society was for a time held in abeyance. The venture into the baking business was highly successful, even beyond the fondest hopes of those who launched the movement. Today the Elanto bakery is the largest in Finland. It has made a real contribution to the country in having introduced modern baking methods and at the same time offered its goods at very reasonable prices.

The growth of Elanto's activities constitutes an interesting chapter in the cooperative movement. In order to make its bakery products known and also to improve restaurant conditions in Helsinki it opened a café in 1908. This was an immediate success and another café followed. Today there are seven of these eating houses, restaurants, and cafés. This activity now is the largest of its kind in Finland.

Since milk is commonly sold in bread shops, Elanto was forced to engage in the sale of dairy products in order to remain in the baking business. People had been accustomed to trading in shops that sold both commodities. Milk was at first purchased wherever it could be bought. But, consistent with the standards set up by Elanto, plans to improve the distribution and quality of dairy products were immediately effected. Success was immediate. Today the society possesses a dairy, pasteurizes its milk, and sets the standards which must be met by farmers who wish to sell their goods to it. Over fifty shops are scattered throughout Helsinki, where "Elanto" bread and milk are sold.

The bakery and dairy business made of Elanto what it had originally aimed to be, namely, an organization to distribute high quality goods at reasonable prices. But these were not to represent the only wares to be distributed. Groceries were added next, and since 1914 over 45 such stores have been established, half of them in Helsinki and the rest in suburban districts. A sausage factory and six pork butcher-shops followed. A brewery for light beer supplies the restaurants, and beer is also sold in bottles direct to consumers. A factory produces jams and syrups. Boot-and-shoe shops to the number of three, drug stores totaling four, and a splendid department store complete the list of Elanto store adventures. The department store is still somewhat limited in the variety and stock of goods handled, but nevertheless makes a very creditable showing.

The society has recently sought to extend its controls in order to increase its stability. To that end it has purchased agricultural lands for the raising of stock and crops. Within the city of Helsinki it owns the valuable lands and buildings which it occupies. The society operates a delivery system with its own autos and auto trucks.

The success of Elanto is attributed largely to the manner of its organization. It is open to all people regardless of political faith, religion, or nationality. Its more than 30,000 members are grouped according to districts, and each group elects a representative to a central council. The representation in the council is on a proportional basis. It is operated somewhat along the lines of a parliament or congress, with various factions represented. A balance is kept, of course, by the diversity of opinions and the principle of majority rule. The society publishes a bulletin of an informative type and also supplies its members gratis with a subscription to any cooperative newspaper published in Finland.

CHAPTER VIII

INLAND COMMUNICATIONS

The Waterways.— Railroads.— Country Roads.—Other Modes of Communication.

Although Finland's internal transportation system has evolved through stages common to most modern nations, namely, waterway, highway, and railway, it has been handicapped by physical, economic, and political obstacles. The fact that the country is endowed with a remarkably efficient natural network of waterways has been offset somewhat by the extensive distribution of bog lands which have necessitated abnormal expenditures for the construction of highway and railway roadbeds. While the actual construction of the roads has involved no particularly difficult engineering problems, encouragement for their building has been lacking. Neither gold discoveries to lure the fortune seeker nor the opening of new lands to attract the squatters have served as stimuli to the building of new roads or the improvement of old ones. In fact, under the Russian régime, attempts to develop an effective commercial communication system were not tolerated. This was in accordance with Russia's policy to obstruct easy interchange of ideas among her people. In the light of Finland's handicaps, the wonder is that she has developed a communication system so well coordinated.

In many parts of Finland the waterways constitute the only available means of travel, while in other parts they supplement rail or country road. That the waterways were valued at an early date is indicated by suggestions of medieval rulers over Finland that certain of the lakes be connected by canal. Only the scant population and limited resources prevented the realization of the proposed improvements. However, the time finally arrived, in 1856, for the celebration of the opening of the first canal, the Saimaa, connecting the complex Saimaa Lake system with the sea at Viipuri, a distance of 35.6 miles (59.3 km.). The difference in level, 250 feet (75.9 m.) between the lake and the Gulf of Finland is overcome by 28 locks, built of locally quarried igneous rock. Boats, steam-powered and barge, up to a maximum dimension of 103 feet (31.2 m.) in length, 23.4 feet (7.1 m.) in width, and a draft of 7.9 feet (2.5 m.) navigate the canal. The Saimaa ranks at the top of a long list of Finland's canals, for it not only brings 1200 miles (1920 km.) of navigable waters into direct communication with the trade of the Gulf of Finland and the Baltic but completes a valuable strategic route through the heart of the country.

Another improved waterway, ranking second to the Saimaa, lies a short distance to the westward. where the Kymi River, connecting the Lake Päijänne system with the Gulf of Finland at Kotka, has been canalized for easy flotation of logs. Kotka has developed into one of the largest sawmill centers and ranks next to Viipuri as an exporter of lumber. A further development in this system has brought the Päijänne with its 360 miles (548 km.) of navigable waters in touch with Lahti where the railroad takes passengers or freight to the ports of Lovisa and Helsinki.

The third improvement of consequence among the lakes of Finland was introduced still farther west where 230 miles (382 km.) of navigable channels have brought the parts of the Pyhäjärvi system into easy communication with each other. Out of this system flows the Kumo River into the Gulf of Bothnia connecting the port of Pori with industrial Tampere.

Twenty first-class canals for the transportation of passengers and merchandise, in addition to many minor ways, stand to Finland's credit since the opening of the Saimaa. Trim power boats transport both people

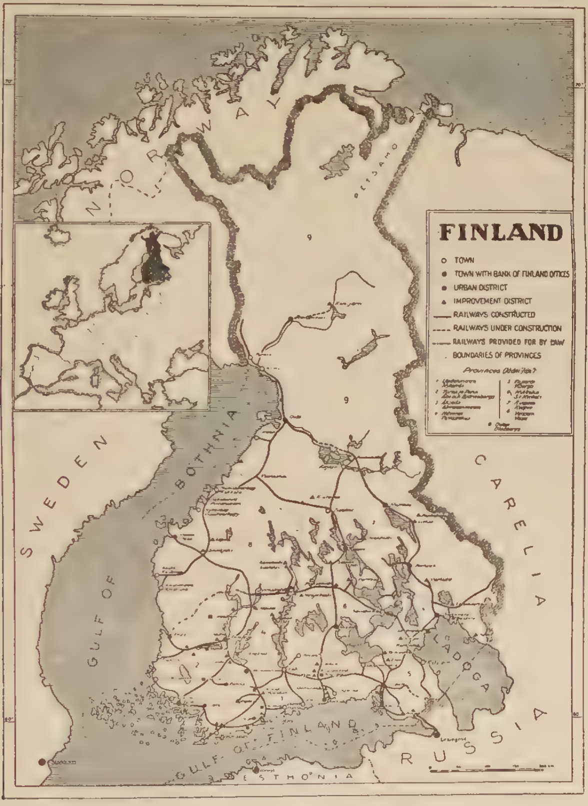


FIG. 23. THE RAILROADS OF FINLAND

and freight upon canal, lake, and river, except where rapids still remain to interrupt normal navigation, when a transfer is made to skilfully manned tarboats —reminders of a former thriving tar industry.

The beginning of railroad construction was delayed by the satisfactory waterways, by the presence of a small population with limited resources, and by the oppositional policy of the Russian government. As the population increased upon the coastal lowland bordering the Gulf of Finland, and the military interests of Russia demanded a rapid means of communication between old St. Petersburg (Leningrad) across the lowland to the fortress of Suomenlinna at Helsinki, Russian politicians gave ear to the request of the Finns for a railroad to parallel the south coast. It was only possible to gain Russian acquiescence to road extension of any sort by demonstrating the probable strategic value of the proposed project.

The building of the first road was commenced in 1858. It was planned to connect Helsinki with Hämeenlinna (Tavastehus) sixty-five miles to the northward and to be extended eastward from Riihimäki on this line to Leningrad. Critical as this road was in the economic development of the country, its cost in both money and loss of life mounted so high that no festivities were held to mark its completion in 1870.

As Russian and Finnish overseas trade grew and pointed to a promising future, a winter port became a necessity. Hanko, being the only one which could be kept open every winter, was selected to fill the rôle of an all-year port and, as an encouragement to its growth, was connected by rail, in 1875, with what was then known as the Helsingfors-St. Petersburg line.

The railroads have slowly penetrated most parts of the country, Rovaniemi just under the Arctic Circle marking the farthest northern limit and Suojärvi at the Russian boundary the eastern limit. Breaks occur in some of the lines where temporarily a lake can profitably supplement rail, but as the traffic increases, as the time element attains greater importance, and as the financial condition of the country improves, these interruptions to rail continuity are being eliminated.

Initial private investments in the railroads entailed such enormous losses that the national government had to take over practically all lines. Today (1926) privately controlled railroads total only 160 miles (266 km.) while the government-owned include 2872 miles (4787 km.) The fact that expansion has been encouraged by all the people, in spite of the losses which eventually must be paid by the public, indicates their confidence in the future.

The acquisition of Petsamo through the Treaty of Dorpat (1920) has brought the Finns another communication problem. To unite this region with the capital city in the south seems the part of political wisdom, and to make the interior of the country accessible to the ice-free Arctic seems proper from the economic viewpoint, yet to build a railroad 240 miles (400 km.) across territory practically uninhabited involves a large investment upon which no returns may be expected for many years. Upon a country with a small population and restricted income, the financial burden of this road would weigh heavily. Of course, if large quantities of valuable mineral deposits were discovered in this new territory, the success of such a railroad would be assured. Both copper and iron have recently been found, but their extent and worth remain unknown.

An obstacle to the operation of railroads has been the nature of the terrain already alluded to. Excepting where the roads follow upon the crests of frontal moraines, eskers, or other fairly firm glacial deposits, the speed of trains must be curtailed, rarely exceeding 30 to 40 miles (50 to 65 km.) per hour, owing to bog lands which constitute an unstable foundation for a large percentage of the tracks. By maintaining slow schedules the vibration of the roadbed and consequent injury is reduced and upkeep cost held within reasonable bounds. Another handicap to rapid transit lies in the lack of coal and the cheapness of wood, the latter being burned in all locomotives except those drawing certain express trains on the Helsinki-Turku and Helsinki-Viipuri runs which burn expensive imported coal. Wood not only limits the motive power but slows up operations, because its rapid combustion requires frequent reloading of tenders; as much as ten to fifteen minutes are consumed in this process at the end of every two hours' operation. Yet, in spite of these many seeming deficiencies, the traveler cannot help admiring the high efficiency which the service has attained.

The railroads of Finland present an interesting apparent revenue anomaly. Whereas the major revenues in other modern countries arise from the carriage of freight, in Finland the converse holds. Passenger receipts actually exceed those from freight on some routes, while for the whole country they reach the remarkably high level of 35 to 40 per cent of the total receipts. Upon analysis, this situation does not present a true anomaly for *Finland,* because of the character of the freight and the supplementary arrangement of rail and water carriers. Since the major portion of the freight is raw timber which can be transported more economically by water than by rail, the latter has no opportunity to share in it as it would in a region less well provided with navigable waterways. Even so, 57 per cent of the freight hauled by the railroads consists of forest products, 6 to 8 per cent paper products, and the balance miscellaneous goods, thus pointing to the small amount of available freight aside from forest products, and the consequent dependence upon passenger receipts to bolster the low income from freight revenues.

The economic benefits accruing to the people from railroad expansion must be measured in terms of the general well-being rather than in dollar profits, for the improved means of communication has fostered frequent conventions of peoples from all parts of the country, enabled the citizens to know their country better than in times past, afforded them opportunity to develop pride in the nation's scenic beauties, and contributed toward the creation of a widespread good will and a strong feeling of national solidarity. Yet there is a direct economic return from the railroad development measurable in terms more definite than these. Without the railroad and its refrigerated cars there could have been no important development of the dairy

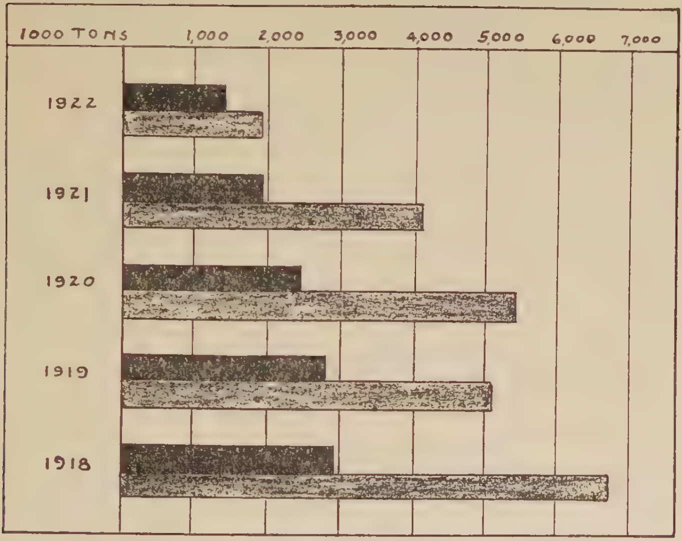


FIG. 24. MERCHANDISE CARRIED BY CANAL AND RAIL. BLACK—CANAL. GRAY—RAIL.

industry with its considerable butter exports representing one of the farmers' principal cash crops and sometimes the only cash crop; neither could the cooperative movement among manufacturers, agriculturists, and consumers have registered anything like its recent progress, for cooperation without the means for communication becomes an impossibility.

Country roads were constructed as early as the latter part of the sixteenth century. The most notable of these was built by the Swedes along the Bothnian Coast to the head of the Gulf and continues along the Swedish coast southward to Stockholm. Another road having strategic importance, built about the same time and serving commerce as well, follows a southeast-northwest course from Sortavala on Lake Ladoga through the heart of the lake district to Kuopio and on to Oulu, joining there with the Bothnian Gulf route. Many other roads have been constructed through the centuries, always planned with respect to military exigencies and in part for the convenience of the peace-time activities of the masses. The military urge has induced a greater growth of roads toward the Russian frontier and along the Gulf of Finland than elsewhere, although commercial needs encouraged roads inland from all important coastal points, giving the country as a whole a fair distribution of highways.

The network had grown to a length of 26,316 miles (42,105 km.) by 1910, since which time its increase has been exceedingly slow owing to the unsettled conditions of the country during the war and the subsequent financial stringency. The mileage in proportion to the size of the country—one mile (.6 km.) for each 6 sq. miles (3.6 eq.km.)—compares favorably with that in other countries, for Finland's population density is low, ranging from a maximum of 50 per sq. mi. (30 per sq. km.) in some districts of the south, to less than 1 per sq. mi. (1 per .6 sq. km.) in the north. The building of roads had been discouraged by the Russian Government during the last century when, in most other countries, road building attained its greatest momentum. The per capita wealth has likewise been small, and the physical conditions of the surface with its extensive bogs has made building mechanically difficult and costly.

An economy in road construction is effected in the so-called "winter highways" which substitute for the summer water service after the close of navigation. In Finnish regions of sparse population, country roads cannot be profitably maintained when built along lake shores, for the Finns, as skilled oarsmen and pilots, enthusiasts for the water landscape, shun the overland route wherever they may express a preference. With the onset of winter they lay out roads across the frozen surfaces of lakes, rivers, and bogs—roads which have advantages over permanent ones built around these features, because they shorten distance, maintain flat gradients, and remain free from impassable snow drifts such as often block the roads through forests or among hills. Such ice routes as those in Finland naturally could characterize only regions of the earth having continuously low temperatures every winter and a surface marked by extensive water and bog areas, a condition rarely met elsewhere.

In December, 1926, the people of Finland owned 12,094 passenger automobiles, 4,451 motorcycles, 4,207 auto-trucks, and 1,437 auto-buses. The small number of passenger automobiles, only one per 300 persons, may be accounted for on the basis of the low per capita wealth, about $216, combined with the high cost of even the lowest-priced automobiles. On the other hand, this deficiency, if it may be so called, is somewhat offset by the numerous motorcycles and the low-fare autobus and taxicab service, which reduce the necessity for private ownership of cars. Again the bicycle receives recognition as an effective and economical means of transport, special bicycle paths being provided along the roadsides.

The telegraph, telephone, and radio services, all government owned, bring the most remote parts of the country into close touch with the principal centers of activity. The wide distribution of water power providing cheap electric current enables even the peasant in the remote districts to enjoy the advantages of a telephone, and with it electric light.

In Finland's communication development, the world has an illustration of the relative merits of waterways and railways. Surely no country has been more richly endowed with waterways which fit so perfectly into the economy of life; and yet as the people aspire to join the concert of modern nations they find that to maintain their part and keep in tune, a rapid railroad expansion is indispensable. Finland's waterways will not be displaced by rail, but, as in recent times, so in the future they will supplement the rail and will be reserved for those goods for which time is not vital and which can be transported more cheaply by water; eventually they will leave to the railroads most of the package freight and carry primarily the bulkier commodities such as logs.

CHAPTER IX

SEAFARING ACTIVITIES

The Fisheries as an Industry.— Fisheries and the Merchant Marine.— The Ports.— The Free Port, Hanko.

When the early Finns made contact with the Swedes they found them engaged in the fisheries and no doubt acquired much knowledge from them relative to this pursuit. Practice in the Baltic Sea fisheries gave the Finns a remarkable skill in seamanship which they put to profit through piracy. Piracy was pursued from an unknown date until outlawed by the advent of Swedish control over Finland and the rise to power of the Hanseatic merchants during the late thirteenth and early fourteenth centuries. At this time the business of piracy on the northern Mediterranean Seas became so precarious that it rapidly declined.

The demand for fish during the Middle Ages in central and southern Europe brought German ships to Finnish waters. The Finns, in turn, experiencing difficulty in obtaining a sufficient variety of foodstuffs and manufactured goods from within their own territory and finding piracy not only hazardous but often impossible, concentrated upon the fisheries and gladly exchanged fish for the salt, sulphur, tin, saltpeter, grains, bread, knives, and other utensils which the Germans had to offer. The fish trade continues to this day, although relatively unimportant compared with its position in medieval times.

The earliest attempts to regulate the fisheries date from 1766, but these were rather fruitless. After a lapse of a century the old laws were revised, and again rewritten in 1902. A feeble effort to enforce the statutes occurred in 1892 when an Inspector was appointed, and again in 1896 when he was given two assistants. Obviously, the long coast line with its innumerable islands could not be effectively policed by these men. In 1918 the Inspector was replaced by a Central Fisheries Bureau and a school for fisheries established at Ero, offering a one-year course; but insufficient appropriations greatly handicapped these efforts. A private society in existence since 1891, in part subsidized by the government, has made a fair contribution along educational lines, particularly through its serial publication first issued in 1912 and printed in both Swedish and Finnish.

Among the many kinds of available fish, salmon, Baltic herring, fresh water herring, salmon trout, and perch command the largest market, and of these salmon and herring are favored. The traveler in Finland never fails to be impressed by the dependence of the people upon fish as a factor in the diet. Nearly every meal other than breakfast every day of the week includes fish of several varieties and prepared according to many different recipes. Much of the fish is consumed either in pickled or salted form and, according to public health officials, eaten in such large quantities in proportion to other elements in the diet that intestinal diseases attain an exceptionally high frequency. This response of the people to an environment which offers a limited variety of food but an abundance of one kind, easy to obtain, simple to prepare, and economical to serve, presents a neat illustration of man's adjustment to nature's offerings.

The principal fishing grounds from which is obtained the catch brought to the public markets and to the canneries are off the coasts, more especially the portion between Helsinki and Hanko. Trout are taken from rivers of northern, northeastern, and central Finland, and fresh water herring from the large interior lakes.

Accurate figures for total production are not available because the vast catch for immediate consumption is not reported to the central authorities. However, some data for the production and export of the Baltic herring, a fish of widespread historic interest, may be offered for the years since 1880.

BALTIC HERRING PRODUCTION

	1000 Tons of 2204 lbs. (Mills. Kg.)	Export
1880	8.76	3.09
1885	11.41	2.47
1890	11.66	4.04
1895	8.32	3.99
1900	7.89	6.16
1905	10.41	Not available
*1910	12.86	" "
*1915	10.62	" "
1920	13.78	" "

* Approximation.

The important domestic markets include Oulu, Vaasa, Pori, Turku, Helsinki, Kotka, and Viipuri, all upon the coast and Jyväskylä and Kuopio in the interior.

A small quantity of salmon canned at Hämeenlinna, Joennsu, and Ylojärvi has insignificant value at present. Whether the quantities and therefore the value can be increased to important proportions seems doubtful in view of Finland's late start in the industry, the high cost of cans and of labor, and the absence of a kind or quality of fish which can create a world market in competition with long-established well-known brands. However, for the people at home, fish as a dependable source of food must continue to have a critical value.

At one time most of the exported Baltic herring went to Russia, but today that outlet is restricted and the export of fish has been considerably curtailed because of competition with Sweden, Norway, Holland, and other countries.

The abundance of tall straight pine timber close to the water's edge has always offered an economical source of raw materials for boat building. This fact with an assured food supply in extensive waters, encouraged boat construction for fishing purposes. Rare is the family in Finland of whatever ancestry which does not own a boat equipped with oars or sails or both.

Finnish fishermen make their way to all parts of the Baltic Sea where international agreements permit, holding their own as skilful navigators alongside of their Scandinavian and German competitors. Their experience upon the northern waters visited by storms approximating in severity those of the oceans, with the additional hazard in the long winter months of crushing ice floes and days of nearly 24 hours of darkness, have given these men an unsurpassed navigating ability. From among these venturers, Russia in prewar days recruited her best sailors for both the navy and merchant marine, and now Finland is taking full advantage of her resources in skilful sailors by developing an effective commercial fleet.

Finland's merchant marine is distributed between the coastal waters and the lakes, with a few ships plying the interior connecting channels. The percentage of the total number of ships engaged in overseas trade cannot be accurately determined from the available statistics, but an approximation of 25 per cent approaches close to the truth.

Before the advent of steam as the motive power for ships, and iron and steel as the construction material, Finland kept pace with European countries in shipbuilding and as a carrier of goods not only for herself but for others. However, the coming of the iron and steel steamship practically sounded the death knell of the Finnish shipping industry, for in the absence of iron ore she was not in a position to compete with her neighbors who had this rich resource. Finland now is dependent upon foreign countries for the carriage of most of her overseas freight. In fact, in 1926, of the 6,767,136 tons of freight exported and imported, only 15.4 per cent was carried in Finnish bottoms.

The number of ships in Finland's merchant marine in 1892 was 1,758 with a net registered tonnage of 251,275 tons, increasing to 5,358 ships with a net tonnage of 538,390 in 1919 and declining to 4,920 ships with a tonnage of 482,440 in 1924. The decline since 1919 occurred only in the records, for it represents ships held by the Soviets at the time of the revolution and finally stricken from the Finnish lists when all hope for their recovery was abandoned. Then, too, a few ships were sold and some were withdrawn which, although unfit, had been temporarily returned to service during the Great War emergency.

Only one Finnish steamship line connects Finland with non-European ports. This is a recently established line bringing Finland and east ports of South America into direct communication. Ships flying foreign flags put in for lumber, paper, pulp, and miscellaneous goods, but do not operate upon a regular schedule. This situation, however, may be looked upon as temporary, for the Republican government appreciating the desirability of establishing convenient lines of communication between itself and the rest of the world encourages the shipbuilding industry. Regular passenger and freight service is maintained with all important Baltic ports and with Copenhagen, Hull, Antwerp, Rotterdam, and Bremen, which in turn link Finland and trans-oceanic trade centers.

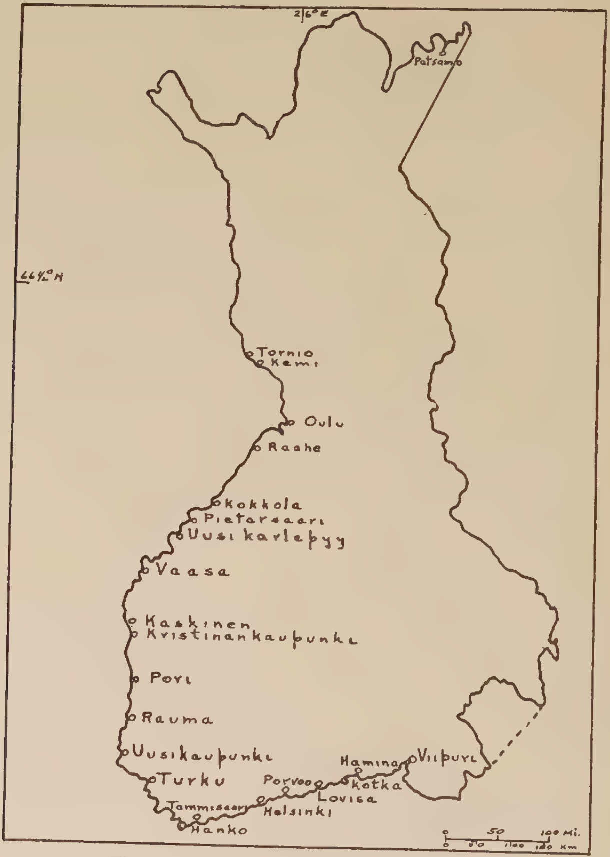


FIG. 25. THE PORTS OF FINLAND

The numerous ports of Finland are evenly spaced along the island-bordered coast and are located at the mouths of streams many of which are navigable for small craft well into the interior. Exclusive of Mariehamn in the Aland Islands which handles her own local trade, twenty first-class ports may be counted along the coast and eight of consequence in the interior. In some respects the coastal ports have developed at the expense of interior centers, because of the preponderance of timber products in their export shipments and the facility with which logs may be floated to the sea, there to be converted into finished forms.

While the development of interior ports is handicapped by the necessity for the transshipment of cargoes at the coast, nevertheless the all-water route between themselves and extra-Finnish territory is one which these ports cherish. From the national standpoint, the many seaports so located in relation to the products available for export as to handle them without congestion during a short navigating season, returns an advantage impossible to estimate in dollar value. No port has a monopoly on either shipments or receipts.

Since the establishment of the Republic, an aggressive advertising campaign by governmental and private agencies revealing the trade opportunities in Finland has brought much tonnage to the ports. This tonnage has emphasized the limitations of harbor and port facilities involving quay space, warehouse storage space, loading cranes, and railroad sidings. The harbors have ample room for the maximum number of ships likely to visit them at a given time for many years to come, but docking facilities need expansion. "In 1923 there were eleven harbors in Finland capable of accommodating the following maximum number of 1000-ton ocean vessels of 80 meters length (approximately 270 feet); Oulu, 32; Helsinki, 19; Turku, 15; Hanko, 10; Kotka, 8; Mäntyluota, 5; Jakobstad, 5; Christinestad, 4; Lovisa and Rauma, 2 each; and Mariehamn, 1." Larger ships of course can be accommodated in these ports, but the figures are presented to give some idea of the relative conditions among the ports.

The depth of the harbors range from 8.5 feet (2.6 meters) alongside the quay in most ports, to 31.3 feet (9.5 meters) at one quay in the port of Björkö, an outer loading port for Viipuri. In the three principal southwestern ports, Turku, Hanko, and Helsinki, the quayside depths are respectively 21.4, 26.4 and 25.4 feet (6.5, 8, and 7.7 meters). Away from the quays the depth is greater, in some places more than 30 feet (9 meters). The depth is not affected by tides, for the Baltic tides are negligible. The approaches to the harbors and the channels are well marked with the latest types of indicators, from the simple colored pole projecting above shallow water areas or the white markings on shore rocks, to the more elaborate lightship and lighthouse. All of the harbors are well protected from storm waves with the exception of some parts of the outer harbor of Viipuri, soon to be improved by the deepening of a channel leading to the inner harbor.

Reference has been made to ice formation along the Finnish coast and its interference with navigation. It presents a national problem whose solution has been undertaken by the joint efforts of local and national governments. The ice completely eliminates from the winter's overseas trade all ports except Hanko, although in some years Mariehamn, Mäntyluoto, Turku and Helsinki share in the trade by grace of a relatively thin ice formation and the assistance of ice-breakers.

The ice-breaker, first used in 1890, has been improved steadily until today the government's fleet of five is considered the world's best. These boats have been relieved of some duty by the application of the ice-breaker principle of construction to Finnish merchant ships, a number of which are now reinforced in a manner which enables them to break ice in the early and late months. However, these ships constitute a small part of the number which attempt to navigate through the ice, and consequently the national government feels it incumbent, if an all-year trade is to be maintained, to offer the service of ice-breakers free of charge. It believes that this service is as advantageous to Finland as to those who trade with the country. When the ice-breaker must tow a boat in addition to breaking a channel, a small charge for towage is made. All steamers calling at the ports during the winter must pay ice dues ranging from 1 cent to 2.6 cents per net registered ton, depending upon their reinforcement against ice damage. The total revenue from this source is quite small, since few ships call.

The ice problem such as has confronted the Finns might well have defeated the efforts of a less patient and persevering people, but these northern people accustomed to a continual struggle with the elements of nature know no discouragement. Their successes have been many, not the least of which has been the maintenance of open ports throughout the winter.

The free port movement upon which many countries of the world have focused their attention during the past ten to fifteen years, has attracted Finland. As a consequence Hanko, her year-round port, now ranks among the list of the world's free ports and has auspicious plans for its ultimate completion. The establishment of a free port anticipates two possibilities, namely, the attraction of ships making Baltic Sea ports with cargoes for split distribution and ships with cargoes destined for Russia during the winter season.

As far as Baltic trade is concerned, there seems little likelihood that a free port at Hanko will prove to be a strong magnet. Hanko assumes more of the characteristics of a terminal port than an entreport owing to its location close to the north end of the Baltic; and yet, since many of the countries bordering this sea are relatively small consumers, a boat with a full cargo, too large for any single region, might find it convenient to have the freedom of a port like Hanko or, for that matter, the freedom of one port in each of the Baltic countries, for purposes of reassorting, partial unloading and reloading without the bother entailed in the usual customs port. Hanko, therefore, may enjoy some additional business purely as a consequence of the dis-

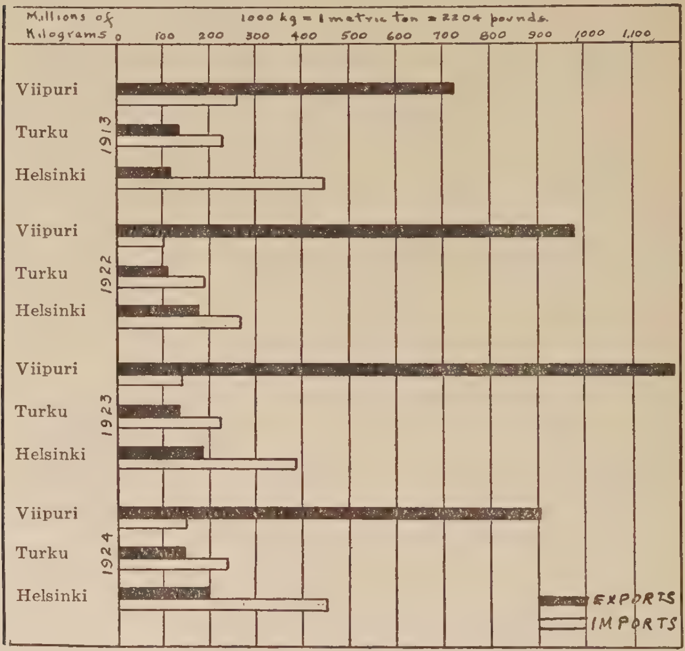


FIG. 26. THE RANK OF PORTS

sected character of the Baltic trading territory, but it is doubtful whether the amount spent upon the building of the free port is warranted by the probable increase in trade from this source alone.

If Russian trade can be induced to pass through Hanko, then a free port may be worth while. During the several months in each year when the Gulf of Finland is blockaded by ice, trade between northern Europe and Russia must follow by rail along the north or south coast of the Gulf, or via some overland route far to the south of Estonia. A free port established on any one of these routes is more than likely to attract the trade, and Hanko, which with its excellent rail facilities to Leningrad offers the best route for winter trade from western and northern Europe, seems the logical port to handle this trade. A large part of the Russian trade which Finland hopes to attract is that with Sweden, which before the war averaged $50,000,000 annually. If the trade eventually returns to these proportions, it will represent about 15 to 20 per cent of Finland's present total world trade. While the Swedish-Russian exchanges handled in the free port of Hanko cannot be construed as Finnish trade, nevertheless the benefits accruing to Finland from the handling of this business and its probable stimulating effect upon Finnish commerce would undoubtedly develop into a very significant item. On the assumption that such a port has attracted the winter trade, the momentum thus acquired may carry over into the summer and add further to the free port's trade advantage.

Only one other element arises to question the possible success of a Finnish free port. The historical background of recent years is not favorable to the establishment of friendly relations between Finland and Russia. Should Russia show an aversion toward trade with

Finland she would aim to care for all trade direct, as long as navigation was open, and during the closed season operate through points south of Leningrad instead of north. In fact, the Soviet Republics, it seems, have not yet surrendered hope of regaining a frontage on the Baltic at the expense of Latvia or Lithuania. Business is generally devoid of sentiment, and only if business of a character mutually beneficial could arise out of the easy flow of trade between Russia and Finland, would commercial relations be resumed in its entirety. This is more than likely to be the case; and, should it happen, a free port at Hanko will become an additional asset to Finland.

CHAPTER X

FOREIGN TRADE

Swedish Period. — Russian Period. — Republican or Modern Period: Exports, Imports.

Historically considered, the trade of Finland may be divided into three periods; namely, under Swedish sovereignty from 1154 to 1809, under Russian dominance from 1809 to 1917, and under the Republic since 1917. Under the Swedish régime Finland's trade career began enthusiastically, involving a lively exchange of goods with western European countries and Russia. Shortly after Russia took possession in 1809, Finnish trade was restricted largely to exchanges with eastern European markets, and, finally, in the post-war period under the Republic, it shifted westward again, almost to the exclusion of eastern Europe, whose unsettled conditions did not warrant the continuance of trade relations.

Early Finnish trade has been described best by Dr. Karl Borries from whose researches most of the facts covering this period have been taken. Although Borries' study centers about Lübeck's trade, it treats of the trade of the Hanseatic League in the Baltic, the rise and fall of Swedish mercantilism, the founding of the German Empire, and the subsequent German trade development up to the beginning of the Great War. Much of this early business, having focused upon a few Finnish ports through which practically all of Finland's trade passed, throws light upon the articles of consumption and production of the people.

In the twelfth and thirteenth centuries when the Hanseatic traders penetrated to Novgorod in Russia, down the Volga to the vicinity of the Caspian Sea, and even across to the shores of the Black Sea, Viipuri, at the head of the Viipuri-Leningrad corridor served as the principal point of departure. Viipuri attained great importance, because Novgorod, which constituted the easternmost center of activity for the Hanseatic traders, became inaccessible at times, owing to poor overland travel facilities or the opposition of raiders in loosely governed territory along the route between Viipuri and Novgorod. Whenever this happened, Viipuri replaced Novgorod as a staple center; upon her market-squares walked merchants from Hamburg, Lübeck, Rostock, Tallinn, Stockholm, Moscow, and other cities. Viipuri authorities capitalized the opportunities thus afforded by the city's location and encouraged traders to put into the port, charging sufficient fees to return a neat profit. It is reported that as many as twenty Hanseatic ships lay at anchor in the harbor at one time. That Viipuri was thoroughly alive to her advantages is shown again by her treaty in the fourteenth century with her competitor, Tallinn, whereby merchants from this city were given the freedom of Viipuri as a trade base in exchange for corresponding privileges for Viipuri's merchants in Tallinn. Thus Viipuri really made Tallinn a party to her own development by bringing Tallinn's trade through her port instead of forcing it by competition through independent channels.

While Viipuri in the east benefited by its position close to the head of the Gulf of Finland and at a point convenient for the breaking of bulk along the Hanseatic trade route, Turku in the west was attracting even more attention. Lying as it does at the southwest extremity of Finland and at the base of an extensive archipelago projecting into those waters where all

Baltic trading ships pass, it has acted as a trade magnet. Located in close proximity to Sweden, it soon became, under Swedish rule, an entrepôt for goods en route to Russia from Stockholm. Likewise it attracted German traders, who acquired important rights at Turku in the thirteenth century and spread their activities along the coast northward to Pori and eastward to Borgå. Turku held its own in competition with all other nearby Finnish ports either monopolizing or dominating the trade of the Gulf of Bothnia and Finland up to the early nineteenth century.

Some idea of the early importance of Viipuri and Turku as trade centers may be gained from the statistics of ship arrivals and departures during the sixteenth century. The dominant position of Tallinn in Viipuri's trade, of Danzig in Turku's commerce, and the greater number of ships attracted to Turku than to Viipuri, emphasize Turku's strategic trade location. Yet Viipuri's statistics create an excellent impression. The small number of ships on Turku's register arriving from and departing to Tallinn may be interpreted as indicative of the competitive positions of these cities, while the large number of Tallinn ships on Viipuri's register point to the effectiveness of the reciprocal trade relations established between these two ports.

In those times the exports of raw materials in exchange for imports of finished goods differed in the kinds of materials only slightly from the present trade. In the twelfth and thirteenth centuries the Finns, occupied mostly in hunting, fishing, and sea piracy, exported primarily furs and fish with minor quantities of wood, butter, rawhides, and tar. Their imports of first rank included rye, vegetables, wines, and salt; and secondarily linens, laces, leather and metal goods, sulphur, weapons, and some works of art. These imports

SHIPPING AT TURKU AND VIIPURI IN THE SIXTEENTH CENTURY *(After Borries)*

Departures from	To	1551	1553	1556	1557	1559	1560	1562	1563	1574	1575	1576	1584
Turku	Lübeck	1	—	2	1	5	5			2	4	6	
	Holland	1	—	—	—	—	—			—	—	—	
	Danzig	12	12	11	13	18	12			20	9	8	
	Riga	7	2	2	4	1	1			—	—	—	
	Reval (Tallinn)	5	3	9	9	2	1			?	?	?	
	Narva	6	2	—	—	5	4			—	—	—	
Viipuri	Lübeck						A few	1					7
	Holland						—	—	—				6
	Danzig						A few	1	—				8
	Reval						23	17	Many				—
	Narva						25	3	A few				—

Arrivals at	From	1549	1551	1553	1556	1557	1558	1559	1560	1584	1585
Turku	Lübeck	3	2	—	2	1	2	5	3		
	Holland	—	1	—	—	—	—	—	—		
	Danzig	13	16	17	13	10	12	19	11		
	Riga	2	5	2	2	4	2	1	—		
	Reval (Tallinn)	7	5	5	11	10	2	2	1		
	Narva	1	2	2	—	—	2	7	1		
Viipuri	Lübeck		—				Many	55	Many	8	6
	Holland		—				—	7	A few	5	5
	Danzig		—				Many	4	?	4	4
	Reval		60				Many	12	Many	—	2
	Narva		—				—	—	Many	1	1

SHIPPING IN THE LEADING PORTS OF FINLAND ABOUT 1600 *(After Borries)*

Departures from	To	1584	1585	1590	1595	1600	1605	1606	1610	1614	1615	1620
Turku	Lübeck	6	9	18	12	4	8	—	......	......	19	......
	Holland	1	4	—	—	2	2	......	......	......	5	......
	Danzig	16	12	12	6	3	2	......	......	......	1	......
Viipuri	Lübeck	5	7	5	5	4	2	......	10	......	......	14
	Holland	6	8	12	1	7	2	......	11	—	......	7
	Danzig	3	4	7	3	2	1	......	1	......	......	......
Helsinki	Lübeck							5		1	1	
	Holland							4		2	2	
	Reval (Tallinn)							—		3	5	

Arrivals at	From	1584	1585	1590	1595	1600	1605	1606	1610	1614	1615	1620
Turku	Lübeck	7	8	22	12	6	5	......	......	......	15	......
	Holland	14	4	......	1	4	2	......	......	......	6	......
	Danzig	7	12	11	12	2	......	......	......	......	2	......
	Stockholm	......	......	1	......	......	......	......	......	......	......	......
Viipuri	Lübeck	8	6	9	9	1	6	......	12	......	......	13
	Holland	6	7	12	2	8	10	......	10	—	......	9
	Danzig	4	4	6	4	2	......	......	2	......	......	......
Helsinki	Lübeck							5		1	1	
	Holland							4		2	2	
	Reval (Tallinn)							......		3	5	

originating in various parts of Europe were brought by German ships from Stettin and Danzig, and the exports were carried to central Europe in the same ships. A small part of the goods found its way into or out of Finland via Swedish merchantmen.

Toward the end of the sixteenth century, the exports recorded for Turku included finished wood goods such as butter-tubs, spoons, bowls, rakes, and utensils, indicating some advance in manual skill over that of the thirteenth and fourteenth centuries. Among these exports were iron utensils, which disappeared from the lists at the beginning of the seventeenth century. They were fashioned, in all probability, with the aid of granite ovens, from bog iron obtained in the lake districts of Carelia and Savolax in eastern Finland.

During the last half of the eighteenth century the first radical change in imports occurred with the appearance on the Turku and Viipuri markets of colonial goods consisting of coffee and sugar. On the other hand, no change took place in exports excepting in quantity, wood and tar increasing in output. A momentous change in the economic life of the people did come about at this time when a few Finnish ships appeared as overseas carriers. It meant the retention within the country of part of the carrying profits and less dependence upon foreigners.

The trading activities of Turku and Viipuri at the extremities of the Gulf of Finland have been dwelt upon in some detail not only because they were the first significant trading centers in Finland, but also because their performances present an excellent cross section of Finnish trade development from early times to the present. Pori, Rauma, Uusikaupunki (Nystad), and other minor centers on the Gulf of Bothnia played some part in foreign trade circles, but none of these cities ever really threatened the positions of Turku and Viipuri. Helsinki and Hanko have had more recent careers, the former acquiring a place of importance after becoming the capital city and after the realization of its possible service as a naval base, and the latter as the official winter port for Finland.

After the Russian occupation of Finland in 1809, the trade continued much as before, so far as the nature of the commodities was concerned, but was interrupted from time to time by disturbing tariffs arbitrarily set by the czars. The Russian authorities aimed to force practically all the trade of Finland in their direction and to eliminate most of the western trade. This gave rise to extensive smuggling, difficult to stop because of the island-dotted coastline which presented a police problem almost impossible to handle.

Relief was afforded in some directions by removing tariffs, granting special privileges, or assigning reductions on certain commodities for limited periods of one to five years. This relief was more apparent than real, because it was offset by a tariff zone along the Finnish-Russian boundary which stopped transit trade through Finland. Goods might enter Finland from abroad under favorable circumstances, but the Finnish trader who had enjoyed a prosperous business by handling transshipment goods between the west and Russia could no longer benefit in this way, for Russia taxed all goods entering her country from Finland to a point where Finnish competition was nearly obliterated. Russia, however, continued to send her own goods into Finland free of duty. This, of course, seriously affected Finland's foreign trade, forcing her to buy from Russia and thereby reducing her purchases from western European countries or elsewhere. Since the latter regions could not sell to Finland, they quite naturally would not buy from her, thus practically ruining Finland's foreign trade. No freedom from this intolerable oppression was secured until the establishment of the Republic in 1918.

While furs and tar have largely passed out of Finland's export column, wood goods, including paper and pulp, continue to hold a commanding position. During the past quarter century wood products have constituted from 60 per cent to as high, in recent years, as 86 per cent of the total exports and undoubtedly will continue to make up the bulk of the country's foreign shipments. While Great Britain takes most of these commodities, the market is being rapidly enlarged and includes many modern nations.

Another export product of significance to the people is butter, which averages from 7 to 10 per cent of the total. The amount in itself does not loom large, but so many farmers, to whom the cash return is vital, share in it that its export assumes a truly national aspect. A reduction in butter exports means serious losses to many producers.

The kinds of commodities entering into Finland's export trade are fixed, wood goods and butter totaling nearly 90 per cent of the whole. In recent years the country has ranked as Europe's largest timber exporter, and all signs indicate that this commodity and its derivatives will continue to be her most vital exports, while butter will no doubt remain in second place. With agricultural lands best suited to forests and grazing, and with as yet negligible mineral deposits, the exports cannot change in kind. Few regions possess less elasticity in the production of a surplus of commodities for trade than does Finland.

Keenly aware of the situation, some Finns who are industrially-minded are working upon the problem of the most effective utilization of what the country has in relation to what the world demands. They appreciate the fact that Finland today possesses little that the world cannot obtain as economically elsewhere. But at the same time they see that the day is not far distant when the surplus which Finland is capable of producing, namely timber and dairy products, will be needed by the rest of the world, and they are trying to train the people to look forward to this probability and to plan accordingly.

As media for the development of international trade, particularly exports, fairs have existed in Europe for centuries. The first fairs assumed the character of centers for barter, but during the last century, following upon the success of the Leipzig and still older Nijni-Novgorod fairs, their complexion has shifted to the sample fair type, which now has been adopted by nearly every European nation. With the establishment of Finland's independence and with the progressive spirit characterizing Finnish business leaders, the holding of a great international industrial fair at Helsinki was to be expected.

The display of goods at these fairs presents a cross section of Finland's export possibilities in terms of its variety of products. While wood and paper goods preponderate, more impressive is the wide assortment of articles, an assortment which the average buyer or tourist would hardly expect. Glassware, agricultural implements, cream separators, casein products, art goods, tools, matches, brushes, porcelains, sporting goods, hides, and textiles are selected at random from the numerous exhibits. Although their total value is insignificant compared with wood products, the development of the industries represented by them may substantially increase the incomes of the city peoples.

Supplementary to the fair activities and the direct selling campaigns of private producers is the work of the Export Association of Finland which publishes a trade journal at irregular intervals. In addition, the Bank of Finland mails to all parts of the world its unexcelled *Monthly Bulletin* presenting a report of the economic status of the country and attempting to acquaint the world with Finland's geographic, economic, and cultural conditions in special authoritative articles. The cooperation of industrial, agricultural, financial and merchant groups in bringing to the attention of other nations accurate information relative to the resources and life of the country points to a rapidly spreading national appreciation of the relation of the development of exports to the country's progress.

The leading imports are foodstuffs which in recent years have fallen from 40 to 24 per cent of the total. With the domestic production of foods always uncertain, their importation must continue to be fairly large and variable in successive years. Imports of raw materials for conversion into finished forms will show a steady increase as water power develops. Higher standards of living will likewise stimulate the demands for a greater variety of commodities, many of which are not or cannot be profitably produced within the country. But if the people wish to have those goods which must be bought abroad, they must export in order to pay for them; and to this end the rural people, representing the major portion of the population, will show wisdom if they encourage an industrial as well as agricultural development.

Water power, industrial potentialities of which can hardly be overestimated, has been mentioned as an element in the future trade of Finland. Its utilization means that the country will be able to economize in her import of finished goods by importing raw materials to be finished at home, thereby eliminating the payment of profits earned by those who now sell the finished goods to her. Furthermore, she may find it possible, as England does today, to finish imported raw materials solely for export, thus earning a service profit. In this connection the fact that the climatic conditions of Finland favor a high degree of efficiency for her workers the year round may well enable her to compete successfully with other countries that import raw materials for purposes of manufacture and re-export.

The principal countries in Finland's trade column in pre-war times were Russia, Germany, Sweden, Denmark, England, and France, with Russia and Germany foremost, and England and Denmark following in order. Russian trade disappeared for a time after the revolution of 1917. Since 1920, when world trade began to show some signs of stabilization, the order of the first five nations trading with Finland has been as follows: England, Germany, the United States, the Netherlands, and Sweden. Some of the trade formerly classified as Russian, when Estonia, Latvia, Lithuania, and Poland were parts of Russia, still comes to Finland. The replacement of Russia and Germany in rank by England and the United States has come about through the increasing absorption by the latter countries of pulp, paper, wood goods, and dairy products and through their ability to supply Finland with the kind of foodstuffs, metals, and machinery which she needs. England takes most of Finland's dairy exports while the United States buys 25 per cent of her pulp and paper products.

The tendencies of Finnish trade, by countries, favor

Germany, England and the United States, with the possibility of Russia's eventually returning to a strong position. In Finland's timber resources and dairy products the first three countries find much-needed reserves, while Finland demands many of their semi-manufactured goods or manufactured articles ready for consumption which she can never hope to produce at so low a cost. In the case of Russia, the similarity of her northern resources and those of Finland eliminate a natural trade basis; but her southern products, including cotton, metals, and cereals, can be sold to Finland in exchange for Finnish wares manufactured either from Finland's own resources or from imported raw materials.

CHAPTER XI

THE CITIES

Distribution. — Growth. — Classification. — City Plans. — Helsinki. — Turku. — Viipuri. — Tampere. — Other Cities.

Although most Finnish cities date from medieval times, few show pleasing souvenirs of the period, such as mark Nürnberg, Wisby, or Bruges. Some of them, as Turku, Viipuri, and Borgå pride themselves upon their medieval churches, and Turku and Viipuri upon their castles, but little else remains to remind one of the days of chivalry. Many of the cities have been swept by fire, not only once but several times, and in their rebuilding have evolved characteristics more striking for their modernity than for their antiquity. While their environments of lake and forest present a pleasing picture, the cities themselves lack the beauties of a Stockholm, a Munich or a Washington.

A map showing the distribution of the cities reveals a normal location for all of them, although their establishment was not always the immediate consequence of natural processes. King Wasa, as well as some of his successors, ruled with an iron hand, determining at times that a city should be located at a given point to serve either as a trade center, a strategic outpost, or to satisfy some personal whim. For example, it seemed desirable that the Finnish coast of the Gulf of Finland have more merchants to offset the competition of Tallinn on the opposite Estonian coast. So Ekenas was established in 1528 and Helsinki in 1550, both by royal decree. However, most of the cities came into being as a consequence of some normal urge, such as trade in tar, skins, or, later, lumber. Tar and lumber induced the growth of Oulu at the mouth of the Oulu river, and lumber gave rise to Tornio, Vaasa, Raahe (Brahestad), and other ports upon the Bothnian coast between Oulu and Turku. In the interior, Tavastehus, founded in 1638; Savonlinna (Nyslott) in 1639; Kuopio, in 1651; and smaller towns rose in succession as commercial centers.

More cities dot the coastal lowland than the central upland lake district, and most of those upon the lowland guard the river mouths. Nineteen of the twenty-one important cities upon the lowland are seaports, while six of the ten prominent trade centers of the interior have a water connection with the sea. Although two-thirds of the cities having a population greater than 2,500 occupy sites upon the lowland, attention is directed to the fact that the lowland itself has not been the primary cause for their location. The excellence of the harbors, the adaptability of the streams for log-floating from the interior to the sea, the great numbers of these rivers heading back from the coast to the extensive timberlands, and incidental fisheries have been instrumental in the establishment and development of these cities. In addition, the influence of the selection of these localities by imperial decree, already referred to, must always be borne in mind as having played a part equal to, and in some instances greater than, the natural factors. The paucity of cities in northern and eastern Finland reflects a severe climate, poor soil and limited food resources.

The growth of the cities has been interrupted at times by political factors, so that their future has always been fraught with uncertainty. They have experienced days of prosperity and again periods of adversity dependent upon the whims of arbitrary rulers who often placed trading limitations upon both local and national governments. Regulations as to the kind of business which they could carry on, the number of workers in a given trade or profession, the regions in which exchange was permissible, and a long list of other restrictions beset the cities and their merchants. Yet, in spite of these circumstances their present sizes seem to represent what may be considered the climax of a normal development. Their growth has not subtracted materially from the rural population, although recently a local migration from farm to city has gained some momentum. The urban population in 1820 amounting to 4.73 per cent of the total has slowly risen to 16.1 per cent in 1920. Compare England with 78 per cent of her people in the cities, Germany with 57 per cent, and rural Norway with 29 per cent.

The cities of Finland classify roughly as commercial, industrial, tourist, or rural. Among these types, perhaps only two cities are unqualifiedly of one class, namely, Tampere and Hameenlinna true industrial centers. Viipuri, Vaasa, Kotka, Pori, Pietarsaari (Jakobstad), and Oulu, all port cities, may be designated as both commercial and industrial, and Helsinki and Turku, as commercial, industrial, and political. Hanko, originally commercial, may be considered tourist as well, since it draws great numbers of travelers to its miles of bathing beaches. Imatra, Savonlinna and Heinola, rural communities, have also profited from a lively tourist traffic, the first two of the group having attracted each summer many wealthy Russians in the days when royalty ruled supreme.

A rectangular plan characterizes nearly all Finnish cities in contrast with the more common radial plans of other European centers dating from medieval times. The rectangular plan usually replaces the radial in cities which are built anew, or where expansion has pushed beyond the confines of the old circumscribing defensive walls or beyond the *Ringstrasse* which occupies the former site of fortifications.

In Finnish cities few evidences of a medieval radial system remain excepting in portions of Rauma, Kotka, Savonlinna, Ekenas, and Hamina, the last one having preserved a nearly perfect octagonal center. Every city has its market square and some boast of an additional central boulevarded promenade; but these features do not always date from the Middle Ages.

The water front exerts some influence upon the plans, the people always having located close to the waterway, their earliest primary means of transportation and source of food. In this case the principal axis of the rectangular plan parallel with the shore line of the bordering bay, lake, or penetrating river oftentimes gives to the city a distinctly elongated character.

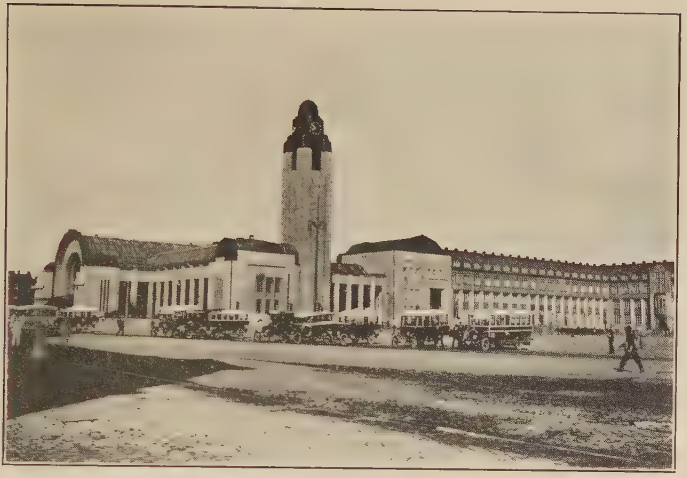
The reason for the apparent departure from the medieval plan lies largely in the nature of the building materials and the topography of the country. Wood buildings dominate the city landscapes, rarely interrupted by stone, brick, or stucco structures. Nearly 85 per cent of the buildings of Finland are built of wood, 10 per cent of non-wood material, and 5 per cent of a combination of stone or brick and timber, Helsinki representing the single exception to these percentages, having but 60 per cent of wood buildings. Obviously, wood structures invite the rapid spread of flames once they get well under way, and if the buildings are close together the flames easily leap from one to the other leveling them in rapid succession. In the rebuilding of the burned cities, the Finns have attempted to reduce the fire hazard by generous spacing of buildings, an arrangement facilitated by the rectangular plan with streets 60 to 100 feet (17 to 30 meters) or more in width. Then, too, the structures on the same side of a street are either well spaced or held to low elevation, and every building, even in the smallest village or upon the isolated farm, must have a ladder permanently placed leading from the ground to the chimney.

The level land upon which most of the cities lie permits the construction of streets at right angles to each other irrespective of grade. The general absence of hills in most of the cities eliminates the necessity for spiral or circular streets, and even where hills do occur, usually rising abruptly and conspicuously above the city as Observatory Hill in Helsinki overlooking the beautiful landlocked harbor, or Puijo Hill in Kuopio commanding a superb view over lake-dotted central Finland, interference in the general plan is negligible.

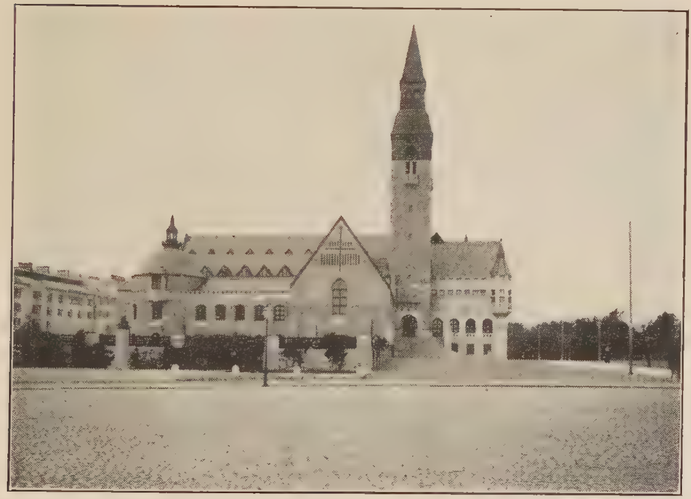
Helsinki, Finland's metropolis, makes a most favorable impression upon the traveler who enters by rail or approaches from the sea. The imposing railroad station of massive granite block and with stately straight-line tower rising high above a broad cobblestone-paved plaza stands as the people's testimony of confidence in the future of their city and nation. The easily accessible deep, spacious harbor, flanked by neat appearing substantial government and private buildings, beyond which rise many ornate and picturesque domes and steeples, seems to belong to a city of a million people rather than one of 200,000.

Through the heart of the business section leads the Esplanade, from the harbor at one end to within a square of the railroad terminal at the opposite end. Attractively boulevarded, with a broad promenade down the center and roomy thoroughfares for vehicular traffic along either side, the Esplanade constitutes the focal center of the country's principal business and government activities. Distributed throughout the city are parked squares, triangles, or more elaborate spaces, often in close proximity to the commercial and industrial centers, affording the people quick access to places of rest at the lunching hour or other times of the day when relief from routine duties permits. In contrast with the restful atmosphere afforded by these green oases are the rows of cement-front or stone structures flanking cobblestone streets devoid of parkways or trees, contributing a sense of hardness to the landscape and serving as a constant reminder of the struggle for existence among these peoples.

Unlike many capital cities such as Paris, Berlin, and London, or metropolitan centers like New York, none of which stand as truly representative of the characteristic life of their respective countries, Helsinki reveals to an unusual degree the normal conditions throughout Finland. It differs from other Finnish centers neither in plan nor in the architecture of most of its buildings. It possesses a rectangular plan and still retains the one-story frame house in close proximity to its more modern structures symbolizing progress in a growing metropolis. The influence of foreign lands shows in the Senate building and the University main building and Library, all excellent examples of the classical style. The magnificent railroad station and some of the bank and office buildings of recent years constitute radical departures from the earlier structures erected during the Russian régime and showing the hand of German architects. The hard vertical lines worked in massive native granite or concrete, conceived by Eliel Saarinen, now risen to international fame, have appealed to the nation. It is Saarinen's contention that this style, better than all others, harmonizes with the northern landscape of low-lying lands.



THE HELSINKI RAILROAD TERMINAL



THE FINNISH NATIONAL MUSEUM

THE ESPLANADE IN HELSINKI

THE UNIVERSITY IN HELSINKI

Located midway between the eastern and western ends of the Gulf of Finland, almost exactly opposite Tallinn in Estonia, Helsinki enjoys an advantageous commercial position. Its spacious harbor, protected from the storm waves by the island-fringed coast and the crescentic peninsula upon which the city stands, invites the commerce of the ships which ply the northern inland seas. Although the port has been favored by political decrees, nevertheless its accessibility both from the sea and the land, plus the ease of navigation within the harbor, has contributed largely to its steady growth.

Established upon its present site in 1640, it grew slowly at first, owing to the early start of Turku and Viipuri. However, the construction of the powerful fortifications of Suomenlinna begun in 1749, the conversion of the city into the national capital, and the shifting of the university from Turku assured the city a healthy future at the partial expense of Turku and Viipuri. In 1815 the population numbered only 4,801, increasing slowly until 1870 when it totaled 28,519. Thereafter the rise was in keeping with that of other European cities which responded to the general era of world prosperity following the Franco-Prussian war. From a total of 43,334 in 1880 the number increased to 201,435 by January 1, 1923.

When Helsinki was founded its population was almost entirely Swedish; but as the city grew and Finnish labor was valued in industry, the Finns gradually filtered in from the rural districts until today they constitute about 40 per cent of the whole.

The rivalry between Finn and Swede, having too often grown into real antagonism, still persists among the business men of the city, much to the detriment of the whole community. In Helsinki are housed the head offices of the principal banks, lumber and paper trusts, shipping corporations, and other important organizations, and frequently businesses are unnecessarily duplicated, because the Finn refuses to trade with the Swede and the Swede will have nothing to do with the Finn. The rivalry extends to the public press and to hotels. While the Swedish and Finnish hotels will not refuse patronage because of political or other differences, each of these hostelries attracts a clientele in accordance with the sympathies of their respective proprietorships. The Finnish hotel, the more modern of the two in style and service, has succumbed to present-day fashion to the extent of having an American dinner-dance orchestra whose depraved syncopations flash upon the air in startling contrast to the almost somber strains of the indigenous Finnish music.

The business of Helsinki is concentrated along the irregular harbor front where offices, factories, and warehouses find convenient locations. It concerns itself primarily in the handling of importations, manufacturing little for export and receiving little from the interior for transshipment. In 1923 the imports through Helsinki amounted to a fraction over 40 per cent of the total for the nation, while her exports barely reached 12 per cent of the whole. This lack of balance of imports and exports is explained by the nature of the goods involved and the ready accessibility of interior cities to the sea through other ports than Helsinki. The imports, mostly foodstuffs and manufactured goods, are consumed in large part by the people of Helsinki, the remainder going to the hinterland conveniently reached by rail. The exports, on the other hand, principally wood and paper products, are not concentrated upon a single port, since every seaport of the country not only manufactures some of these goods for foreign shipment but in addition is located in a position to receive products from the interior for overseas shipment, thereby restricting Helsinki's commercial hinterland and hence the available freight for export. Helsinki, unlike New York, Buenos Aires, and Shanghai, which hold key positions both for the import trade of a large hinterland and an export trade from the same territory, always shares the nation's exports with other ports and consequently may anticipate only a moderate rate of growth.

Turku, aptly called "the cradle of Finnish culture," is, in many respects, the most pleasing of the larger cities of Finland. The trim shores of the winding Aura river, the broad, clean, tree-bordered streets, the historic Cathedral dating from the thirteenth century with its spired tower watching over one end of the town, and the venerable castle of about the same date guarding the opposite end, symbolic of the power of medieval days, give Turku a picturesqueness approached only by Viipuri. The city has a delightful setting at the mouth of the Aura river and upon a coast broken by the attractive Turku archipelago with its myriads of conifer-decked islands. The impressive cultural atmosphere of centuries past is augmented today by an art museum crowning a slight eminence overlooking most of the city, by the new Finnish University, and by the revived Swedish Academy whose most flourishing days were experienced during the seventeenth and eighteenth centuries while Turku was still the capital of Finland and her primary trade center.

Commercially considered, the location of Turku has advantages over that of Helsinki, inasmuch as the port lies close to Sweden, is easily accessible to a large area of the Baltic waters, and in winter remains ice free from two to three weeks longer. Historically, it likewise had better opportunities until Helsinki was granted preferences at its expense. Beginning with its service in the trade of the Hanseatic League down through the era of Swedish mercantilism, the city seemed destined to become Finland's metropolis, but after the transfer in 1819 of governmental activities to Helsinki, the burning of the city in 1827, and the transfer of the University to the capital in 1829, Turku declined to second rank. With a setback such as this, particularly under the Russian régime which bestowed every favor upon Helsinki, the possibility of recovery became remote. Furthermore, the later development of Hanko as a national winter port, subsidized by the government, presented additional obstacles to Turku's realization of its ambitions. However Turku's future is by no means dark, for its position opposite Stockholm at the southwestern extremity of Finland upon a port which may be kept open more months in the year than any other port save Hanko should enable it to regain much of its loss.

Viipuri may well be termed the "Gateway to Russia." As Turku has served as Finland's point of contact with eastern culture and trade, so Viipuri has done duty as the first line of defense against invasion from the east and as an outpost for trade with the east.

Viipuri's souvenir of her medieval prowess is represented by her castle and fortress built in 1293 by the Swedish Viceroy Torkel Knutson and now still used by the military. Its location upon a small island accessible today by bridge recalls the protection which it must have offered the city in the days when warfare was largely a matter of hand-to-hand combat and when the catapult was the most effective long-range gun.

In 1710 Viipuri was taken by the Russians and not until 1812 was it returned to Finnish sovereignty. Under the Russian rule its flourishing trade was largely cut off, Leningrad then being favored by decree. With the return of the city to Finland and the opening of the Saimaa Canal (1856) it enjoyed a great trade revival, attaining first place among all Finnish cities by 1875. It still ranks first in the value of its exports, but in the total value of trade competes with Turku for second place. Its exports of wood products overshadow all other goods, constituting, in value, nearly 90 per cent of the total and exceeding its nearest rival Kotka by over 100 per cent.

Tampere, located about one hundred miles (160 km.) north of Helsinki where the falls and rapids connecting lakes Näsijärvi and Pyhäjärvi offer an invitation to manufacture, has developed into Finland's textile center, sometimes called the "Manchester of Finland." However, many other goods are manufactured, among the more important being paper, machinery, locomotives, shoes, and leather. This city, ranking third in population with its 51,000 inhabitants, lies in the heart of western Finland among the pure Tavast Finns where its success as a manufacturing center augurs well for the adaptability of the Finn to modern industrial methods.

Other cities of Finland have their local peculiarities, but conform in general to the characteristics of those already described. Most of them impress the stranger by their quietude, since the unostentatious and retiring Finn usually manifests slight emotion, but plods on, paying little heed to rival cities and placing his faith in the progress of his own community.

CHAPTER XII

LITERATURE, MUSIC, AND ART

Swedish Period to 1809.— The Modern Period.— Music.— Art. — The Rya.

Although Finnish culture reveals evidences of a racial inheritance and shows the influence of seven centuries and more of close contact with Swedish life, it is truly born of the soil, the climate, and the topography. The literature, music, and art harmonize with nature's northern moods and point to the power of the physical environment to endow the temperament of the people. The works of Finnish authors, composers, and painters show a striking originality; they reflect a vivid imagination which invariably utilizes the natural elements for its central theme.

Literary production in Finland may be classified as medieval and modern, the former corresponding to the period of Swedish dominance lasting till 1809, and the latter to the recent period. The first time division, in a sense, carries over into the modern period when Finnish runes were recorded and published, but because these runes describe rural life from earliest times, they have been assigned here to the Swedish period and are discussed under that heading.

The Kalevala, Finland's notable contribution to the world's literature, consists of folk songs or runes dating back at least several centuries. It records with dramatic emphasis the struggle for existence among a people never known to flinch under the stress of nature's most discouraging environment. Impressed by the beauty, the charm, and the historic value of the runes handed down by word of mouth among the peasantry from generation to generation, Elias Lönnrot, a traveling physician and later a professor of Finnish in the University of Helsinki, determined to record them and make them accessible to the world. He was not the first person, however, to attempt a collection of the runes, for he was preceded by Gabriel Maxenius who published a few in his *De Effectibus Naturalibus* (1733). The poet Topelius made a collection, some of which he published in 1822, but, suffering from a fatal disease while at the height of his work, succumbed before the completion of his task. He left his unfinished work to Lönnrot, who not only caught his enthusiasm, but, seeing a relationship among the heroes of the various folk songs, also became inspired to attempt a complete collection of them and arrange them in epic form. Lönnrot traveled to the remotest parts of Finland where modernisms had not yet penetrated, and, as he listened hour after hour to the singing of the peasantry, faithfully recorded each canto. He was particularly fortunate in making contact with a few of the oldest rune-singers in Carelia and East Carelia who could still repeat line after line descriptive of Finnish life.

Assembling the runes according to his own interpretation of their relationship and recasting a few of them, Lönnrot built up the Kalevala which has been ranked as an epic equal in quality to the Iliad and the Niebelunge. Its 27,000 lines, made available in 1835, brought home to the Finns a realization of the existence of a common Finnish language. The people for the first time appreciated the possibilities of developing a language of their own which might merit the same consideration as Russian, German, Swedish, or other recognized national tongues and weld together an independent Finnish nation. The publication of the Kalevala marked the true beginning of an intense nationalistic spirit throughout Finland.

The age of the runes according to some authorities ranges from two to three thousand years. If they are as old as that, their origin must be traced beyond the present boundaries of Finland. However, the facility with which the few remaining rune-singers compose verses or modify old ones gives evidence of a strong local influence upon the composition of all the runes collected in the Kalevala, regardless of their place of origin. Quotations will show how accurately these runes depict the struggles of a people endeavoring to overcome the handicaps inherent in a territory like Finland; and they lead to the conviction that these folk songs either originated in Finland or have been so changed by the Finnish peasants as to reflect all the local color of the present environment.

The peasants' manner of singing the runes is sufficiently archaic to deserve notice. The singers seat themselves upon low benches or stools in the center of the assembled group, and facing each other with outstretched arms, take hold of hands; then, as they sway their bodies to and fro in seesaw fashion, first one sings, or more properly chants, a song, and then another takes up the theme. The singing and seesawing continue until one or the other runs out of verses. Sometimes volunteers from among the onlookers take the places of those who have just finished and either repeat verses or begin a new series constituting a new rune. The chant of unrhymed meter in a minor key is accompanied by the music of the kantele, an instrument resembling the ancient dulcimer and probably related to it.

The story of the Kalevala, as the title itself indicates when translated, is the tale of the Land of Heroes. It tells about the adventures of four heroes and four heroines, symbolic of elements in the natural environment, and interweaves an account of the origin of the earth and a description of the parts played by the sun, the moon, the atmosphere, and the earth's surface in man's struggle for existence. The heroes are Wainamoinen, an old minstrel and magician, son of the Wind and the Virgin of the Air; Ilmarinen, a smith and craftsman of great skill; Lemminkainen, a joker, carefree, who manages to make trouble for himself or others; and Kullervo, a giant in physical power but morose in his outlook upon life—a tragical figure. The heroines with characteristics strongly expressive of northern life are Louhi, mistress of Pohjola (the North Country now probably represented by Lapland); her daughter, the child of Pohjola, Aino, a maiden of the north sought by Wainamoinen; and Ilmatar, Daughter of the Air. About these characters the vivid imagination of the rune singers ran riot, evolving myth after myth in seemingly inexhaustible numbers.

The heavenly bodies, humanized and deified, are removed from and replaced in the firmament with a facility which only the most magnificent flights of the imagination can conceive. Louhi, Mistress of Pohjola, hides the Sun and Moon when the heroes Ilmarinen, Wainamoinen, and Lemminkainen organize an expedition against her in order to rob her of the Sampo, "the talisman of success." Her resistance finally overcome, she is forced to restore the Sun and the Moon, and Wainamoinen, Son of the Wind and of the Virgin of the Atmosphere, observing the return of these heavenly bodies, chants the following greeting:

Greetings to thee, Sun of fortune,
Greetings to thee, Moon of good-luck,
Welcome sunshine, welcome moonlight,
Golden is the dawn of morning!
Free art thou, O Sun of silver,
Free again, O Moon beloved,
As the sacred cuckoo's singing,
As the ring-dove's liquid cooings.

Rise, thou silver Sun, each morning,
Source of light and life hereafter,
Bring us, daily, joyful greetings,
Fill our homes with peace and plenty,
That our sowing, fishing, hunting,
May be prospered by thy coming.
Travel on thy daily journey,
Let the Moon be ever with thee;
Glide along thy way rejoicing,
End thy journeyings in slumber;
Rest at evening in the ocean,
When thy daily cares have ended,
To the good of all thy people,
To the pleasure of Wainola,
To the joy of Kalevala!

—*From Rune 49.*

The critical character of frost in the life of the peasants, not only as it endangers the crops but also the natural vegetation, receives due recognition in a brief but accurate narration of its destructive effects. Frost interrupts the progress of Lemminkainen, who proposes an attack against Pohjola, the North Country, whither he had previously gone upon an unsuccessful venture to woo the daughter of Louhi, Mistress of Pohjola. In his rage he remonstrates with Frost in no uncertain terms, describing him as follows:

. . . Evil-born and evil-nurtured,
Grew to be an evil genius,
Evil was thy mind and spirit,
And the infant still was nameless,
Till the name of Frost was given

To the progeny of evil.
Then the young lad lived in hedges,
Dwelt among the weeds and willows,
Lived in springs in days of summer,
On the borders of the marshes,
Tore the lindens in the winter,
Stormed among the glens and forests,
Raged among the sacred birch-trees,
Rattled in the alder-branches,
Froze the trees, the shoots, the grasses,
Evened all the plains and prairies,
Ate the leaves within the woodlands,
Made the stalks drop down their blossoms,
Peeled the bark on weeds and willows.

— *From Rune 30.*

The Finn's favorite trees are the gracefully clustered white-trunked birch, probably the most useful tree in Finnish rural life, the stately symmetrical evergreen, and the colorful red-berried mountain ash. Wainemoinen, wandering across the fields and through the forests seeking his lost kantele, comes upon a weeping birch, and, upon inquiring the cause of sadness, receives a response in the following delightful lines:

. . . I, alas! a helpless birch tree,
Dread the changing of the seasons,
I must give my bark to others,
Lose my leaves and silken tassels.
Often come the Suomi children,
Peal my bark and drink my life-blood:
Wicked shepherds in the summer,
Come and steal my belt of silver,
Of my bark make berry-baskets,
Dishes make, and cups for drinking.
Oftentimes the Northland maidens
Cut my tender limbs for birch-brooms,
Bind my twigs and silver tassels
Into brooms to sweep their cabins;
Often have the Northland heroes
Chopped me into chips for burning;

Three times in the summer season,
In the pleasant days of springtime,
Foresters have ground their axes
On my silver trunk and branches,
Robbed me of my life for ages . . . .
— *From Rune 44.*

Through the words of the folk song the birch itself gives permanent expression to its manifold services to the Finnish peasants.

A cheerful aspect of the Finnish environment is presented in the Farewell song of the daughter of Pohjola who has become bride of the smith and craftsman, Ilmarinen. This song paints a landscape to whose attractiveness those can well attest who have tramped across Finland's fens and through her forests:

Send to all my farewell greetings,
To the fields, and groves, and berries;
Greet the meadows with their daisies,
Greet the borders with their fences,
Greet the lakelets with their islands,
Greet the streams with trout disporting,
Greet the hills with stately pine trees,
And the valleys with their birches.
Fare ye well, ye streams and lakelets,
Fertile fields, and shores of ocean,
All ye aspens on the mountains,
All ye lindens of the valleys,
All ye beautiful stone-lindens,
All ye shade trees by the cottage,
All ye junipers and willows,
All ye shrubs with berries laden,
Waving grass and fields of barley,
Arms of elms, and oaks, and alders,
Fare ye well, dear scenes of childhood,
Happiness of days departed!
— *From Rune 24.*

When the runes were composed, the modern Finnish village or city was but a hamlet, the group home of a people living in part by fishing and hunting, doing little to modify the natural landscape. Villages resembling the ancient ones still exist. Tornio, for example, at the head of the Gulf of Bothnia answers well to runic descriptions. Ilmarinen returns to Wainola with his Pohjola bride to receive a welcome from Lakko, hostess of Wainola. Lakko, anticipating his return, recounts in great detail the numerous comforts awaiting the bride and concludes with the following vivid description of a primitive Finnish village in its natural setting:

> Thou hast here a lovely village,
> Finest spot in all of Northland,
> In the lowlands sweet the verdure,
> In the uplands, fields of beauty,
> With the lake-shore near the hamlet,
> Near thy home the running water,
> Where the goslings swim and frolic,
> Water-birds disport in numbers.
>
> —*From Rune 25.*

The Finn's faith in his kind of bath is unbounded and therefore he immortalizes it in his national epic. The Finn swears by the bath, for it not only helps him preserve his health, but, to his mind, also serves as a cure for almost all ills. To be sure, leaders in educational, business, and political circles do not harbor this extreme view, but they do still entertain an almost reverent regard for the bath. To appreciate the rune which estimates its curative qualities a description of the bath is essential.

The bathhouse, one of the first of numerous structures to be erected upon a Finnish farm site, is a small frame, sometimes windowless, shack, in which has been built along one wall a boulder fireplace projecting well into the room and without a chimney. A hole in the roof of the building permits the smoke to escape; sometimes only the cracks between the timbers serve in that capacity. In the preparation of the bath, the stones of the fireplace are first heated to a high temperature, after which the fire is extinguished and cold water thrown upon the stones until great clouds of steam fill the room. Around the walls on shelf-like platforms lie the bathers, who, as the steam stimulates their blood circulation, beat themselves with a bundle of birch or aspen twigs. After some ten or twenty minutes immersion in the steam, the bather throws cold water upon himself, after which he returns to his house — perhaps fifty to one hundred yards away — to dress. In winter he may stop to roll in the snow before dressing. The shock, of course, is great, but with training from childhood the Finn withstands the ordeal and develops tremendous physical endurance. In Rune 45, entitled "Birth of the Nine Diseases," the bath is described as follows:

Wainamoinen heats the bathrooms,
Heats the blocks of healing sandstone
With the magic wood of Northland,
Gathered by the sacred river;
Water brings in covered buckets
From the cataract and whirlpool;
Brooms he brings enwrapped with ermine,
Well the bath the healer cleanses,
Softens well the brooms of birch-wood;
Then a honey-heat he wakens,
Fills the rooms with healing vapors,
From the virtue of the pebbles
Glowing in the heat of magic,
Thus he speaks in supplication:
"Come, O Ukko, to my rescue,
God of Mercy, lend thy presence,
Give these vapor-baths new virtues,
Grant to them the powers of healing
And restore my dying people. . . ."

The poetry of the Finns including both folk songs and modern works has been conceived amid the influence of nature and shows her unmistakable impress. The reflection of the environment, especially as revealed by the Kalevala, seems well-nigh perfect.

Lönnrot and his contemporaries, Johan Ludwig Runeberg and Zacharias Topelius, together constitute Finland's triad of outstanding poets. Runeberg's poetry, like that of the Kalevala, takes its themes from Finnish life and, although conceived in modern times, is highly imaginative. It describes the landscape and the peasants' struggle for existence, portraying both the lighter side of life and the more dramatic. Runeberg's instinctive love for the out-of-doors naturally gave him an added appreciation of man's relation to the land. A characteristic stanza from one of his songs in praise of the northland runs as follows:

How shadows there are deep and rich,
Neath birch and alder tree,
How gold-illumined shines each creek,
Each cool wave of the sea.

Runeberg wrote the words for the Finnish National Anthem "Maamme." A few stanzas quoted here express the idealism of this northern people and their recognition of their responsibility to the land:

OUR LAND (Maamme)

Our land, our land, our fatherland!
Thou glorious word, ring forth!
No mountain rises proud and grand,
Nor slopes a vale, nor sweeps a strand,
More dear than thou, land of the north,
Our fathers' native earth.

Our land is poor as all can tell,
For those who seek but gold;
A stranger scorns its heath and fell;
And yet this land we love full well;
We still — with mountain, wood, and wold —
As golden land this hold.

We love our rivers' thundering tide
Our streamlets sparkling bright;
The murmuring of our forests wide,
Our starry nights, our summer's pride,
All, all that e'er, with sound or sight,
Has filled us with delight.

* * * * * * *

And who could count the struggles dire
Which that brave people stood,
When battle raged with sword and fire,
And frost and famine spend their ire;
And who could meet their outspread blood,
Their patient, dauntless mood?

* * * * * * *

Oh land! thou land of thousand lakes,
Of song and constancy;
Against whose strand life's ocean breaks,
Where dreams the past; the future wakes;
Oh! blush not for thy poverty,
Be hopeful, bold, and free;

Thy blossom in the bud that lies
Shall burst its fetters strong;
Lo! from our tender love shall rise
Thy light, thy fame, thy hopes, thy joys;
And prouder far shall sound ere long
Our Finland's patriot song!

Runeberg was considered one of Finland's staunchest patriots and to his writings the nation owes much of its stimulus toward the development of national pride and solidarity.

Topelius has been a Longfellow to the Finnish child. Residing at Runeberg's home when a student in Helsinki, he imbibed much of Runeberg's patriotic spirit. In his boyhood days an appreciation of Finnish life had been instilled into him by his father, who had made a collection of runes. Topelius' fondness for children proved a boon to the embryonic citizens of Finland; for, while he wrote entertaining fairy stories, he also composed lyrics descriptive of the landscape and the life of the people. These proved an inspiration to the youth of the country and assisted greatly in creating among them an intense love for the homeland.

Finland may not only take pride in her poets but she may likewise boast of her prose writers whose works have exerted a profound influence upon the country's development. Like the poets, these writers have not escaped the impress of their native environment. Minna Canth, 1844-1897, a dramatist and short-story writer, treats great social problems in the life of her countrymen. Tuhani Aho (born 1861) devoted most of his energies to realistic descriptions of the life of the people, only occasionally pursuing flights of the imagination which stamped him as a romanticist. The list of novelists is a long one, but to Alexis Kivi (1834-1872) goes the palm as Finland's best. His *Seven Brothers,* discussed in Chapter III, blazed a trail for Finnish prose writers. The story focuses upon the early, primitive life, and develops that life through a cycle ending in modern times. Like so many Finnish stories, the *Seven Brothers* is a mixture of the real and the allegorical. It describes the trials of the isolated struggling peasant who is barely beyond the Stone Age, and weaves the experiences of the brothers through a maze of uncertainties, shaping their destinies in terms of their respective characteristics typifying Finnish life and evolving them, as it were, through the successive stages of civilization until they finally arrive as valuable citizens of the country in which they derive their sustenance. The woods, the moors, the animals, the lakes, the winds, the low temperatures, the farm, the home, all enter into the setting showing their respective effects upon life.

MUSIC

Both the folk music and the music of the outstanding composers seem to resolve themselves naturally into the Finnish environment. The traveler is strongly impressed by the harmony between the musical expression or motif and the physical conditions of the country. One might well anticipate that external influences would affect the purity of the music in the light of the country's development under alternate Swedish and Russian control. However, such influences as have been felt have only been sufficient to indicate contact, but not to leave the impression of complete alien domination. Here again it must be pointed out that the unity of the Finns is truly remarkable; that, while foreign political invasions from time to time have been successful, attempted invasions into their home life have been completely repulsed.

Reference has been made to the Kalevala as a collection of folk songs. This collection, together with those contained in the Kantelatar, a less momentous work, represent the largest assemblage of Finnish folk songs. Interesting for their verbal composition they are equally striking for their musical rhythm. Their motif suggests to the writer the mental or psychological reactions of the people to their environment, melancholy, sadness, struggle, pain, and occasionally joy, describing the moods which their songs call to one's mind when sung in the Finnish setting.

Some of the melodies are probably Finnish in origin.

Folk songs do not respect international or inter-tribal boundaries and so it happens that similar melodies may occur in different lands although with different word accompaniment. The minor key, the major key with occasional minor phrases, and the accented strains or alternation of hurried passages and pauses suggest a primitive music common to tribes everywhere from the Arctic to the Tropics. Has Finnish music been introduced by the immigrant Finns and does it therefore possess an Asiatic or eastern European origin, or has it possibly been so modified since the occupation of Finland by the Finns as to give it original characteristics? Danger lurks in attempts to interpret the music of primitive peoples; the humid heat of the Tropics or the benumbing cold of the Arctic alike may induce melodies which express identical moods.

Finnish music more than likely is related to that of the peoples of the coniferous regions of northern Russia with whom the Finns have had contact. Many of the melodies of the Carelians and Savolaxians are identical with those of East Carelia in Russia. Whether or not the folk music had its origin on Finnish soil or accompanied the migrating peoples, one hearing it cannot help but be reminded of the somber atmosphere, the struggle for existence, and the rarity of the joyful day. This same tone permeates the works of modern composers, not just those who perhaps might have consciously built upon these old themes, but essentially all composers, in spite of their having felt the influence of foreign schools, particularly Swedish and German Lutheran.

The development of a national music was delayed until 1830. It was stimulated by Frederick Pacius, a native of Hamburg, Germany, who removed to Finland in 1837 at the age of 28 years. Fired with the enthusiasm of youth, he caught the spirit of Finnish life as reflected by the folk music and the conditions of life in Finland; and incorporating this atmosphere in his compositions, preserved for all time the characteristics of the folk songs. "Suomenlaulu," Finland's song, and "Maamme," Our Land, the national anthem for which Runeberg wrote the words, won for Pacius the title "Father of Finnish Music."

Many composers who succeeded Pacius, or who were late contemporaries of his, made important contributions to the national music. But the outstanding exponent of the best Finnish music and the composer who is considered best to represent the spirit of the people is Jean Sibelius, born in 1856 in Tavastehus, and still contributing to Finland's productions. Sibelius' compositions are to Finnish life what Grieg's are to the Norwegian, and his productions, more than any others of Finnish origin, have in recent years directed the world's attention to the charm of Finnish music. Many of his works written in a minor key express the temperament of a people outwardly unemotional and seemingly depressed.

Sibelius' music reflects the mood of the northland, "the land of a thousand lakes." It mirrors the landscape, with its vast dark imposing forests, its forbidding swamp-covered stretches, its streams catapulting their way down to the sea, the extensive snowy deserts of winter, or the golden midnight sun of a soothing summer's night. The cheerful tone is so rare in Sibelius' work as to be negligible and herein his music does not do full justice to the Finnish folk; for, however great their solemnity, they do have a saving sense of humor and a spirit of play which expresses itself in the folk dance or in their sports.

ART

The art gallery in most modern countries is marked by diversity of subject representing many periods and numerous schools; but not so the art institutions of Finland, for these contain primarily the paintings and sketches produced by artists now resident in the country or who have lived in Finland in recent times. While they show variation in technique and give evidence of the influences of the French and German schools, they strikingly depict the dull Finnish landscapes, the struggle for existence in Finnish life, and the mythological presentations in Finnish literature.

The early art in Finland, largely Swedish in character, consists mostly of mural decorations and frescoes upon the walls or ceilings of the older churches. Only recently has there been a development in painting which has contributed artists of rank. The first of these men, Albert Edelfelt (1854-1905), who portrayed Finnish life with skill and virility, was of Swedish ancestry. Akseli Gallen-Kallela, a Finn born in Finland in 1865, gained world recognition for portrayals of the life in remote parts of Finland and for his illustrations of word pictures in the Kalevala. Eero Järnefelt (born 1863) is the third prominent artist of Finland who successfully transferred to the canvas an accurate record of the landscape, agricultural processes, and the rural home life.

Remarkable as are some of the artistic conceptions hanging upon the walls of Finnish art museums, one emerges from the galleries somewhat depressed. Few cheerful scenes greet the eye. The struggle for existence against great odds, the meagre achievement, and the pitiful reward constitute the principal motif. The burning of the forests in the process of land clearing, the shepherd boy alone in the wilderness, a rural burial scene, a fisherman's lowly hut upon a lake or seashore, or the fisherman upon a storm-tossed sea vainly seeking to make a landing—these and others emphasize not only the response of the people to their natural environment but the power which the natural environment wields over man. The environment reacts apparently upon the artists themselves causing them to eliminate the treatment of subjects foreign to their locality.

Even the artistic design upon Finnish paper money reflects the life of the people in striking fashion. The 1000-mark note on one surface symbolizes Finnish nature, while on the reverse side the national coat of arms is set against a background of a dwarfed gnarled evergreen tree. The 500-mark note shows a picture on the front side symbolizing agriculture, while on the reverse face the coat of arms is embedded in a cluster of fir boughs. The 100-mark and 50-mark notes are decorated with symbols standing for industry and shipping respectively, while the notes of smaller denominations reveal a single fir tree as the central theme.

A discussion of Finnish Art as affected by the natural conditions of the country cannot be complete without a few observations upon Finnish architecture. The style of modern Finnish architecture may be characterized by the word "massive." Finland's granite and other igneous rocks have been utilized to build structures with straight lines giving the effect of great solidity. This style which was incorporated in Saarinen's prize plan for the Chicago Tribune Building received the following encomium from the committee on award: "Only one foreign design stands out as possessing surpassing merit, and this truly wonderful design did not come from France, Italy, or England, the recognized centers of European culture, but from the little northern nation of Finland. . . . The Finnish designs express a unity of composition, a grasping of the problem as a whole which was not achieved by any of the other foreign competitors nor by any of the American ones, but this unity of composition and truthful expression of the plan have been qualities which have brought about the unanimous decision of the Jury."

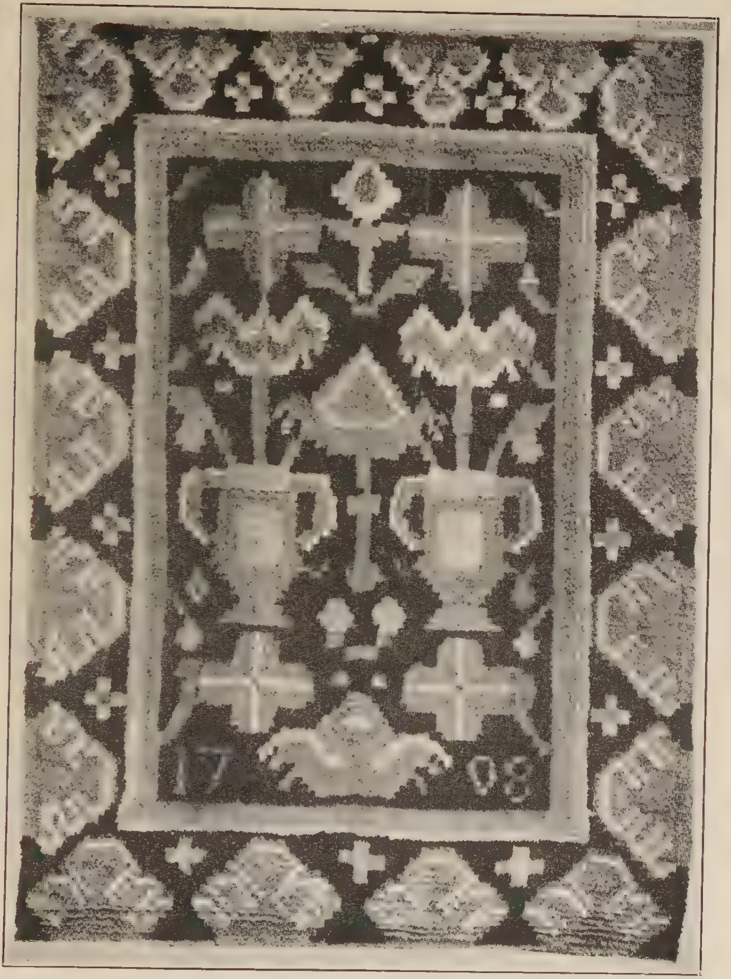
Rural dwellings and many of the older apartment buildings in the cities are of frame construction, usually one story or two stories in height and capped with spires, wood points, or other ornate projections, a feature which distinguishes them at once from the more modern houses. This style, however, is passing as advances in engineering skill make possible the erection of the newer stone types.

A manual art peculiar to Finland is expressed in the Rya, a beautiful hand-knotted rug or wall tapestry, unique in character and design. The Rya, not unlike the oriental rug in its general appearance, differs from it in the details of technique and in the purpose for which it is made. The designs of the earlier Ryas are for the most part geometric — while the later rugs show symbols confined to the center field, accompanied by a border of geometric forms. Some foreign designs such as the tulip, palmetto leaf, and animal forms, particularly lions and birds, appeared at the beginning of the eighteenth century, and by the end of the century the foreign influence had become so marked as to give rise to a controversy relative to the origin of the Rya.

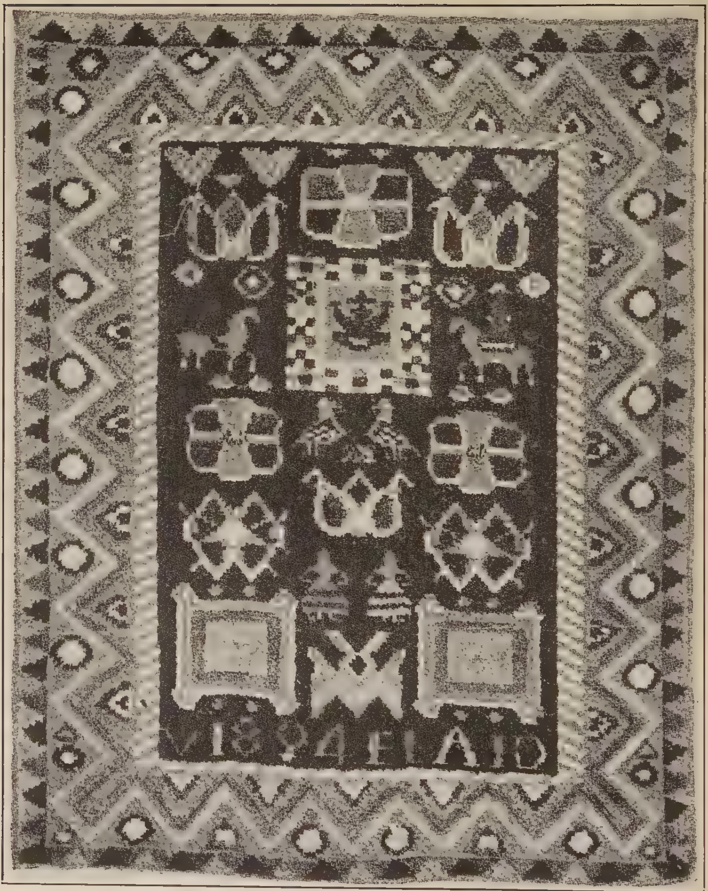
Attempts have been made to classify Ryas, but without much success, for they are strikingly individual. "Styles" apparently never exerted an influence. Every peasant wove his Rya to satisfy his own desires and tastes. Even professional weavers who wandered from village to village taking orders for Ryas wove them according to specifications set by purchasers, rarely introducing their own ideas. In a few parishes there appears a similarity in the border design, but never in the center field motif.

The colors, too, are individualistic, showing apparently the influences of the natural environment. Warm color combinations of reds and yellows prevail in the weaves of the southwest coastal regions, and the colder blues and yellows prevail in those from the interior.

Connoisseurs of Ryas hold the colors as the chief asset of the rugs. The harmony is said to be in many instances almost perfect, with colors pure, soft, and fresh, recalling the warm bright tones of an autumn landscape in a far northern country. Furthermore, there is individuality in workmanship and the symbolic designs frequently reflect a particular locality in the country; as, for example, the grouped hearts surrounding a spiked wheel which characterize rugs from East Satakunta and Häme (Tavastland), or the rococo designs from Uusimaa (Nyland) and adjacent southern Ostrobothnia. Characteristic of the better Ryas are the dates, the name of the original owner, and the harmony in color composition. The oldest dated rug now in existence is inscribed 1705. This, however, is not the oldest piece known. It is probable that Ryas were made several hundreds of years prior to the eighteenth century; they are still woven in the Finnish homes but do not possess the same beauty of color as those of centuries ago, for the early art of dye-making has been lost in Finland, just as in other countries of Europe, and with it have gone the rich tones which are cherished so highly in the older specimens.



A Finnish Rya



A Finnish Rya

As intimated, the origin of the Rya has not been determined. The word itself, derived from the Swedish "ryor," has suggested a Swedish origin for the tapestry; but this may merely express the Swedish dominance of early times. The records indicate, for example, that King Wasa at one time ordered Finnish rya weavers to Sweden to weave rugs there for his people. Theory assigns Siberia as a possible source of this art, and again places Poland and the Baltic countries as regions through which it moved from southern Europe into Finland. Hörhammer, one of Finland's Rya experts from whom some of the data here have been received, has recently located Ryas in Lithuania, which gives some support to the last-mentioned suggestion. On the other hand, it has not been established whether these Ryas were actually made within Lithuania. It seems to the writer, however, in view of the similarity of the Rya to the "oriental" rug of southeastern Europe and southwestern Asia, that this art might well have been carried into Finland by the early migrants along the Volga River, or by the Swedish traders who descended the Volga to the District of Saratov and on their return brought the art back with them. The Rya may serve either as partial evidence of early Finnish migrations or the migrations may throw light on the origin of the Ryas.

CHAPTER XIII

HISTORY AND POLITICS

1154 to 1809.—1809 to 1917.—1917 to the Present.—The Parties.—The Language Fight.—The Aland Islands Controversy.—The Carelian Question.

While the physical environment of the Finns, both in their original home and in Finland, has been important in molding their economic and cultural development, certain critical events in their medieval and modern history and politics need to be reviewed to show how these also have been affected by geographic conditions. Finland's history, excluding the obscure years prior to 1154, falls into three periods: Swedish control, from 1154 to 1809; Russian Czarism, from 1809-1917; and the period of Finnish independence, dating from the declaration of December 6, 1917.

The Swedes undertook a series of Crusades into Finland between the years 1154 and 1293 at a time when the crusading spirit was animating all Europe. While these armed pilgrimages were for purposes of Christianizing the Finns, they accomplished not only their avowed object but also the conquest of territory. Both results were facilitated by the presence of Swedes who had already occupied portions of Finland, and who were sympathetic with the religious and nationalistic aspirations of the Swedes in Sweden. The crusaders encountered difficulties only when they approached the Russian border. Here the attitude of the people was somewhat antagonistic toward the invaders. These people, the Carelian Finns, living in the vicinity of Lake Ladoga, like most primitive peoples wished to preserve their independence. In fact, having rallied about Viipuri, which as a trade center was in direct competition with Swedish Turku, they were in no mood to entertain the Swedes at this time.

As the Swedish crusaders continued their efforts to Christianize the peoples of Finland as far east as Russia proper and even into Russia, their expeditions became largely armies of conquest rather than agents of religious reform. Conflict with Russia occurred frequently and the Carelians, located between the Swedes and Russians, found themselves unwillingly acting in the rôle of a buffer state. Upon the site of forts erected at strategic points in this territory the cities of Viipuri and Käkisalmi developed.

The struggles interfered seriously with trade development. Hence the powerful Hanseatic League, whose commercial interests extended to these parts, took steps to bring about an amicable settlement of Russo-Swedish differences. As a consequence, a peace pact was signed at Schlüsselburg, Russia, near Leningrad, establishing the international boundary line along a diagonal extending northwestward from the Vuoksi river system to the Gulf of Bothnia. While the line could not be defined because of a lack of exact knowledge of the interior of Finland, the most important feature of this agreement lay in the fact that it marked the first stage in the long struggle between the people of Finland and the Russians over the ownership of Carelia. Although the present Finnish-Russian boundary line bisecting original Carelia is more satisfactory than that of any other period in the history of the two countries, the adjustment of the boundary line to include within Finland all of Russian Carelia still remains an important Finnish objective.

In 1581 King John III of Sweden granted Finland the rank of a Grand Duchy to indicate his appreciation of the Finns' loyalty to Sweden during the numerous conflicts with Russia. This favor assured Sweden of further Finnish support. Following upon thirty-five years more of intermittent Swedish-Finnish hostilities with Russia, essentially the present boundary between Finland and Russia was established by the peace of Stolbowa (1617). Henceforward the history of Finland is in large part the history of Sweden, excepting that her proximity to Russia made her bear the brunt of the wars between Sweden and the Slavic Empire.

In all the six centuries of Finland's subordination to Sweden there was never any very long period of peace. Supplementing the fight for commercial and territorial gains was a prolonged internal conflict of religious interests between the Catholic and Protestant (Lutheran) churches. Hardly had the heavens cleared of one bank of war clouds when another disturbance loomed just over the horizon, until the climax Swedish-Russian war of 1808-9 brought about the capitulation of the Swedish army and the signing of the Peace of Frederikshamn, September 17, 1809, whereby Sweden recognized Russia's sovereignty over Finland.

The struggles during all these years had as the underlying motive commercial supremacy and political power therein resembling modern international struggles. In fact, looked upon from the viewpoint of a Russian or Swedish citizen, Finland could only be a menace in the hands of a foreign power. Russia could not afford to have an ambitious nation so close to her in a position to cut her off from access to the Baltic. Her desires for an unrestricted outlet upon the Baltic had to be satisfied before hope for a prolonged peace could be realized. Yet Sweden had fears of a powerful people occupying the opposite coast of the Gulf of Bothnia or the islands of the Turku archipelago.

So far as the Finns are concerned, their acquisition by Russia was probably the best solution of the controversial problem, if the one hundred and eight years of subsequent peace may serve as a criterion. Russian control by no means always pleased the Finns or the Swedes of Finland, but it must be granted that the absence of the ravages of war did permit more progress than heretofore had been possible. Furthermore, her incorporation into a vast contiguous area of great latitudinal extent facilitated trade expansion, which, in turn, helped to improve her whole economic status.

In 1808 Czar Alexander I requested the Finns to send representatives to Leningrad from all parts of the country to make known the desires of the people. Accordingly, on February 1, 1909, Alexander convoked the Finnish Diet which met on the following March 22 and which heard the promise with regard to the political future of their country pronounced by Alexander himself, at Borgå on March 27:

> We, Alexander, by the Grace of God Emperor and Autocrat of all the Russians, Grand Duke of Finland . . . proclaim that: the will of the Almighty has given into Our possession the Grand Duchy of Finland, and therefore We desire by this to confirm and sanction the religion and fundamental laws of the country, as well as the rights and privileges in each particular order in the Grand Duchy, and all that her inhabitants in general, both high and low, have enjoyed up to now by virtue of the constitution. We promise to maintain all these advantages and laws in force without alteration or change.

These words could leave no doubt in the minds of the people as to just what could be expected from Russia. Clearly, Finland was to continue as a Grand Duchy, with complete autonomy excepting in international relations. All seemed to augur well for the future. On March 29, 1809, the Estates of Finland took the oath of fidelity, after which Alexander was proclaimed Grand Duke of Finland. On September 17 of the same year Sweden renounced all rights to Finland and acknowledged the new order.

Everything pointed to an era of great progress and prosperity. Under the reign of Alexander I (1809-1825) and that of his successor Nicholas I (1825-1855), followed by Alexander II (1855-1881), Finland made great commercial, intellectual, and nationalistic strides. There followed in succession such critical cultural events as the transfer of the University from Abo to Helsinki in 1828, the founding of the Finnish Literary Society in 1831, the awakening of an appreciation of a national language about 1835, effected through such literary leaders as Lönnrot, Snellman, Runeberg, Castren, Kivi, and others, and a complete reorganization of the schools in 1845. Economic advances were marked by the opening of the Saimaa Canal in 1856, by the construction of a succession of other canals, and by the improvement of natural waterways. Likewise, the first railway, completed in 1870, connecting Helsinki and Leningrad, represented one of the fruits of these blossoming years, which also witnessed the introduction (1861) of Finland's own monetary system.

But while these activities built up great hopes and aspirations among the Finns, they also fanned the smoldering embers of a spirit of dissatisfaction which was eventually to reach the proportions of a vast conflagration. In general, progress characterized the reigns of the three czars from 1809 to 1881, but it was accompanied by a certain amount of political stagnation, because the Diet, which could meet only on call of the Czar, had not been summoned between its first meeting in 1809 and the year 1863.

The convocation of the Diet in 1863 showed a Swedish majority, and sounded the beginning of an attempt to reorganize the Diet. Heretofore this body consisted of the Four Estates representing the Clergy and Peasants, who stood for the nationalization of Finland along Finnish lines, and the Nobility and Burghers who allied themselves with the Swedish cause. Since representation was apportioned to the number of people who paid taxes, the moneyed Swedish party held a majority. Plans for reorganization might have proceeded peacefully had Alexander II lived longer or had his son Alexander III carried out his promise to maintain his father's liberal policies; but shortly after Alexander III's accession to the throne in 1881, the "Russification" of Finland began and was only temporarily abandoned in 1891, when the Czar announced that the rights of Finland would be upheld.

Until Alexander's death in 1894 and during the early years of the reign of his successor, Nicholas II, all went well again. But Nicholas was soon adversely influenced by his coterie of advisers and the anti-Finnish movement set in once more, severer than ever before. In 1898 the Czar, badly advised, named the short-sighted and autocratic Bobrikoff to serve as Governor-General of Finland, and thus marked the beginning of a long struggle which culminated in Finnish independence in 1917.

Bobrikoff called a special session of the Diet at once to announce a revision of the military laws of Finland which would eliminate the Finnish army and require the Finns to serve in the Russian army. A protest against the pronunciamento with petitions signed by 592,931 persons was dispatched to Leningrad, but without avail; the delegation conveying the petitions was refused an audience with the Czar. The new military law went into effect in 1901, followed by a series of restrictions instituted against the press, the right of assembly, and other normal public privileges. Feeling ran high against Bobrikoff's reign of terror, and reached its climax when he was assassinated by a Finnish patriot, Eugene Schauman, on the Senate steps in Helsinki, June 16, 1904. This act led to a national strike in 1905 and an attitude of passive resistance against further Russian oppression. The policy proved successful, leading to a complete reorganization of the Diet in 1906, the establishment of universal suffrage, the adoption of the secret ballot, direct vote for representatives in the Diet, and a one-chamber Diet.

Political parties were rather loosely organized along new lines. In place of the Four Estates there appeared the Social-Democrats, opposed by the Finns, the Young Finns, the Swedes, and the Peasants. But even under the new régime Russian antagonism would not down, and the Finns still hoped for a way out from under Russian domination. For some time after 1914, Finland was little affected by the War, excepting that party lines grew weaker as the national safety occupied an increasingly important place in the minds of all of the people.

The Russian revolution of 1917 was the signal for Finnish independence. After it became evident that the revolution would continue and that the Bolshevists would remain in control, Finland declared herself independent of Russia. But this was not to mean immediate freedom. The Communist elements within Finland attempted to deliver the country to Soviet Russia, whereupon the Nationalists, including all but the Social-Democratic parties, split with the radical Socialists, and a civil war ensued between the so-called White Guards, representing the former, and the Red

Guards, the latter party. The White Guards were organized under Carl Gustav Mannerheim, "the George Washington" of Finland. The Reds, affiliated with Soviet Russia, met with success in the early campaigns. They drove the Whites to the western and northern parts of the country and forced them to seek foreign assistance. The Whites appealed to Sweden for aid but were refused, no doubt because of the importance which Sweden attached to the Gulf of Bothnia and the Baltic Sea as a boundary between herself and Russia. She entertained no special desire for a powerful Russia across the waters from her, but if this was to be, she preferred a friendly to a hostile neighbor. Had Sweden taken part and lost, the Reds might have proceeded farther westward, especially around the head of the Gulf of Bothnia. The White Guards turned to the Germans as the only other possible source of help. Their call was answered, presumably in the belief that a victorious encroachment upon Russia would place another peg in the series of successes which the Germans enjoyed up to this time in the Great War. German aid put an end in April 1918 to the four months of civil war.

In the period of reorganization immediately following the civil war, the question arose as to whether Finland should become a monarchy or a republic. The first Diet acting under P. E. Svinhufvud as Regent, a disciple of the old Russian régime, chose Frederick Karl, Prince of Hessen, Germany, as King; but he refused to accept owing to the uncertain future of his own country. That for which Germany fought was thereby lost, for at this juncture Mannerheim became Regent, December 1918, and in March of 1919 the Diet, with a changed complexion due to a strong Republican majority, decided upon a Republic, which was established July 17. On July 26 the first President, Dr. K. J. Stahlberg,* was chosen by the Diet for a term of six years, with the understanding that subsequent elections would be by the Electoral College as provided by the Constitution.

The independence of Finland was first recognized by the Scandinavian countries in 1917, then by France, Germany, and shortly afterwards by all other important powers. The Acting Central Committee of Russia recognized Finland's independence January 4, 1918.

The political parties of Finland, organized along agricultural, industrial, and to some extent linguistic lines, show today certain interesting tendencies which may be interpreted in the light of the economic progress of the country. The radical Communistic and Social-Democratic parties, representing the Left, have lost a little ground, while in numbers, and certainly in influence, other parties making up the Bourgeois have gained. Among the Bourgeois the Swedish People's Party and the Coalitionists together represent the Right, and the National Progressive Party together with the Agrarians or Farmer's League constitute the Center.

If the recent presidential election serves as an index to tendencies, the Agrarian strength is growing, for this party in 1925 elected its candidate for President. Supporting the Agrarians is the National Progressive Party; because, in addition to its interest in the internal development of the country involving such matters as the minimum-wage laws, the limitation of working hours, pensions, and the like, it also shows active concern in the farmer ownership of land. Likewise, the Coalitionists, thinking in terms of the social improvement of the farmers, add support to any movement making for the progress of the agricultural life of Finland.

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* Mannerheim, given some consideration, was not satisfactory to all the parties and hence was gracefully retired with honors and an honorarium.

The Swedish People's Party devotes its energies to the maintenance of the rights of the Swedes in Finland and the use of the Swedish language. In this connection it wields a sort of balance of power. The Social-Democrats have somewhat mixed policies, while the Communists have little to offer that is constructive.

In an alignment of this sort the industrial interests of Finland cannot look forward to any power, except by enlisting the Swedish element and those members of the farm group who appreciate the close relationship, not to say actual inter-dependence, of the lumber, paper, and manufacturing industries with the agricultural.

COMPLEXION OF THE DIET SINCE THE ESTABLISHMENT OF THE REPUBLIC

Parties	1919		1922		1924		1927	
	Number	Per* Cent	Number	Per Cent	Number	Per Cent	Number	Per cent
Communists	2	1	27	13	18	9	20	10
Social Democrats	78	39	53	26	60	30	60	30
Agrarians	42	21	45	22	44	22	52	26
Progressives	26	13	15	7	17	8	10	5
Coalitionists	28	14	35	17	38	19	34	17
Swedes	22	11	25	12	23	11	24	12

* Decimals have been omitted.

The establishment of the Republic and the introduction of a complete land reform has involved a tremendous social and economic revolution. Finland must be looked upon as a new country having many problems of internal organization to solve. As the land is made more productive, as mineral resources hitherto unknown or unexploited are developed, as a balance is struck between the effectiveness of industry on the one hand and the importance of agriculture and forestry on the other, the stabilization of national political policies may come to pass.

It will be recalled that the publication of the Kalevala (1836) made the Finns realize that they had a language which might be nationalized, so as to bring about a national consciousness among the inhabitants of pure Finnish ancestry. Although Swedish had been the official language under Swedish rule and continued to be so under Russian control, Finnish was not forbidden. In fact, the courts used it when a native Finn could not understand Swedish, although its use was not compulsory. In 1841 Finnish was first taught in all the lower schools, and in 1902 its equality with Swedish as an official language was established.

To the Finns it has been unthinkable that a nation might rise to power where two languages assumed equal importance. Many Finns are convinced that if the country is to survive as a nation of pure Finns, if it is to escape the danger of absorption by Sweden, then it must have but one official language and that must be Finnish. Out of this attitude, to a large degree, the nationalistic movement has grown. There seems to be no desire on the part of the Finns to eliminate the Swedes or the Swedish-speaking people from Finland; they wish only to insure the predominance of the Finnish language.

The question of an official language has split the country into two factions, the Svecomans and Fennomans. These groups do not represent political parties, although the term Svecoman is essentially synonymous with the "Swedish Peoples' Party" formerly known as the "Liberal Party." The Fennomans—that is, the Finnish-speaking people—include several parties. As a matter of fact, all of these political groups are equally at home in the Swedish and Finnish languages, but they support only one as the national language. Although Svecoman and Fennoman oppose each other, they live under a constitution which provides for equal language privileges, excepting that "the language of command of the armed forces shall be in Finnish":

> "Finnish and Swedish shall be the national languages of the Republic."
>
> "The right of Finnish citizens to use their mother tongue, whether Finnish or Swedish, before the courts and the administrative authorities and to obtain from them documents in such languages, shall be guaranteed by law, so as to safeguard the rights of the Finnish population and the rights of the Swedish population of the country in accordance with identical principles."
>
> "The state shall provide for the intellectual and economic needs of the Finnish and Swedish populations in accordance with identical principles."
>
> "Every Finnish citizen must take part in the defense of the country or assist therein as prescribed by law."
>
> "Every conscript, unless he otherwise desires, shall if possible be enrolled in a military unit the members of which speak his own mother tongue (Finnish or Swedish), and shall in such unit receive his instruction in that language. Finnish shall be the language of command of the armed forces."

The laws of the Diet further provide:

> "When re-arranging the borders of the administrative districts, care should be taken to make, as far as possible, single language districts, either Finnish or Swedish, or that the minorities speaking the other languages will be as small as possible.
>
> "The administration of parishes is to be founded on the self-government of citizens as ordered by special laws. It is also ordered by law in which way and how far the self-government of citizens should be applied to administrative districts larger than parishes. When arranging the borders of these districts, the regulations of the previous clause should be followed."

The language conflict reflects the physical unity of a region opposed to a linguistic division. In a region where the natural features do not make possible division of territory along barrier boundaries, peoples with opposed interests cannot live harmoniously. Among communities whose languages are different, yet whose economic requirements demand the occupation or utilization of the same territory, friction arises. Accompanying these language differences are differences in national political aspirations. Nowhere in Finland can satisfactory boundary lines be drawn which will permit peoples with these opposing aims to live as peaceful neighbors. The waterways, the soils, the forests, and the minerals constitute a unit; and, until a language compromise is reached satisfactory to both Finns and Swedes occupying Finland, both elements will find their progress in the utilization of these resources handicapped.

The Aland Islands' controversy of the post-war years, finally concluded in a decision favorable to Finland in October, 1921, was largely based on evidence furnished by geology and geography rather than that offered by history and language. The language question received a large share of attention. Sweden claimed a right to the possession of these islands because of her centuries of ownership before Russia acquired them in 1809 and because of the fact that the population is almost entirely Swedish-speaking and of Swedish ancestry. On the other hand, Finland laid claim to them because they mark the outer group of islands in the archipelago lying westward from the Finnish coast, possess the same geological history as the mainland, and were owned by Russia when Finland was a Grand Duchy. By Sweden's recognition of Finland as a part of Russia, Finland asserted that the archipelago automatically belonged to her.

These islands in the hands of a powerful aggressor nation would give Sweden good reason for uneasiness. On the other hand, their possession by Sweden, from the Finnish viewpoint, would place Finland in jeopardy. The assignment of the islands by the special commission of the League of Nations to Finland with the understanding that they are not to be fortified seems a happy solution and geographically proper.

The occupants of East Carelia, immediately across the boundary in Russia, sought independence in the days of the Russian Revolution; but, owing to their small scattered numbers—estimated at 200,000, they could not bring sufficient strength to bear to break away from the Bolshevists. At the Peace of Dorpat, concluded between Finland and Russia in 1920, an autonomous status in domestic affairs was provided for them, which after some delay has been fully granted by the Soviet Government.

Since the runes constituting the basis for the Kalevala, Finland's national epic, were collected from among the Carelians, and since the Finnish national awakening was stimulated by the appearance of the Kalevala, the rest of the Finns have shown a sympathetic interest in the welfare of their neighboring kinsmen. Leaders of political thought in Finland and some Europeans sympathetic with Finnish national aspirations urged that the question of the incorporation of East Carelia by Finland be presented before the League of Nations for settlement. The basic arguments of the Finns in behalf of their claims to annexation involve, first, an ethnological and linguistic relationship, and second, the resultant improvement which would accrue to the economic conditions of the Carelians. The Soviets, however, have been so reluctant to argue the question that when the matter was brought before the League they declined to attend the meeting.

CHAPTER XIV

EMIGRATION — THE FINN IN AMERICA

Number of Emigrants.— Settlement in the United States: Initial Activities Upon Arrival, The Finn as a Pioneer Farmer, The Finn as a Citizen.— Evidence of Geographic Influence.

Investigation among the Finns who have settled in the United States shows the prime reason for leaving Finland to have been the bitter struggle for existence. Nature's vicissitudes, combined with Russia's arbitrary methods and the preoccupancy of the better regions by the Swedes, have encouraged the outward flow of the peasantry to regions which beckoned them to a more hopeful future. The migratory movement, once under way, perpetuated itself through the stories of success reaching relatives and friends left behind, who in turn responded to the urge to join the prospering pioneers.

The accompanying graph tells the story of Finnish emigration during the first quarter of the twentieth century. The most striking feature of these curves lies in their revelation of the fact that practically all of the emigrants headed for North America. Until the recent enactment in the United States of the law restricting immigration, 75 per cent to 90 per cent reached this country. Canada now receives more Finns than the United States.

The emigrants from the rural districts in the decade 1901-1910 reached 86 per cent of the total emigration, and in the decade 1911-1920, 84 per cent, most of them originating in the western coastal lowland regions. The province of Vaasa alone supplied nearly 50 per cent. Some have argued that the proximity to the sea has exerted a large influence upon the movement from these regions, but it would be a difficult matter to prove the assertion, since the bulk of the population occupies the coastal lowlands and consequently would in all probability supply a considerable proportion of migrants. However, the type of emigrant sheds some light upon the reasons for the pronounced movement from these regions. As already indicated, the Swedes from early times have farmed the better soils, leaving to the Finns the poorer upland and back-country areas. The emigrants, with few exceptions, have not been the Swede-Finns, that is, the Swedes native to Finland, but rather pure Finns — just those people who have occupied the poorer soils where the struggle for existence has been most severe. Again, inherited farms oftentimes have been divided among the heirs until the resulting areas are too small to support a family. In consequence, one heir might assume the burden of the entire farm, while the others emigrated to lands offering a better prospect.

Emigration is larger in summer than in winter. While this is true in all European countries, it is especially so in Finland because of the close of navigation at nearly all ports during the winter months. However, the period of issuance of passports is not seasonal and does not correspond closely with the time of sailing; in some years most of the passports are issued between November and March and in other years during the summer months. Restriction laws in various countries, local crop conditions, the political situation at home, impending wars, and a variety of other circumstances account for this variability. From 1920 to 1924 the annual emigration to the United States continued at a uniform rate, but in subsequent years it dropped to one-eighth of its former average on account of the new United States immigration restriction act.

Reliable records of Finnish immigration into America are of recent date. Claims have been made that some Finns were among a group of Swedes who in 1627 put in at Delaware Bay and established themselves not far from the present site of Philadelphia. It is further asserted that John Morton, a signer of the Declaration of Independence, was a Finnish descendant from this early colony.*

The evidence upon which these statements are founded is too vague to permit of their unchallenged acceptance, but they are none the less worth noting. The records are clear** relative to the arrival of two ships in Delaware Bay carrying representatives of the Swedish-West India Company, but it has so far been impossible to determine exactly the nationalities involved. There may have been some Finns in the party.

Not until the period between 1850 and 1860 did Finns come to the United States in numbers. About 250 came from the copper-mining districts of Norway and Sweden across the northern Finnish boundary line, where they formerly found seasonal employment. Arriving at Calumet, Michigan, they were employed in the newly-opened copper mines. This first group seems to represent the only instance marking the importation of Finns by an industrial company. All subsequent arrivals responded to encouraging letters of those gone before.

The earliest Finnish immigrants in New England, according to current stories, were sailors who left ships at Boston and Gloucester about 1870 and found their way into the granite quarries of Quincy and

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* From an unpublished manuscript by Akseli Rauanheimo — Consul General of Finland, in Canada.

** John Fiske, Dutch and Quaker Colonies in America.

Lanesville. There they could earn good wages in an occupation which they had experienced at home; so they took up permanent residence and then sent for their relatives.

An extensive study of Finnish settlements in the United States, made by the writer, has brought to light the lasting impress left upon these people by the physical environment of their old home, an impress which persists long after they reach America. It reveals the fact that most of the Finns have settled in parts of this country which are geographically similar to those from which they have emigrated, and that they have adjusted themselves to the new region with a degree of success not met by other settlers, either foreign or native.

Although the Finns dwell in every state of the Union they are concentrated in the states of the northern half of the country. The number of foreign-born Finns in the United States in 1920* totaled 149,824 representing 1.1 per cent of the total foreign-born population. The number of Finns, including native and foreign born, was 272,925. Michigan and Minnesota stand out pre-eminently as "Finnish" states. Massachusetts ranks next, and then Washington. New York state follows, on account of the large number of Finns in New York City (Brooklyn). The Pacific Coast states have attracted a fair number because of the lumber and fishing industries, but by no means so many as the first-mentioned states. Washington, Oregon, and California together had a total of 44,404 in 1920, compared with 146,696 for Minnesota, Wisconsin, and Michigan. In contrast, the number of Finns in the southern states is almost negligible. North Carolina has only 29, Georgia 68, Louisiana 220, Texas 352, and Florida 555.

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* Unless otherwise specified all figures are based on the 1920 census.

More than half (52.3 per cent) of the Finnish immigrant population lives in the rural* districts of the United States. Only immigrants from Norway, Denmark, Luxembourg, and Mexico show a similar tendency. Foreigners usually concentrate in urban centers, as shown by the fact that less than one-third of *all* "foreign white stock" (28.4 per cent) is located in the rural districts.

Interviews with many Finns, as also with their employers in the cities, bring out the fact that the congested cities retain the Finn for only a very short time. Although in such states as Illinois, New York, or Massachusetts, large manufacturing centers attract the first arrivals, they later drift toward the land. As soon as the Finn saves enough money to purchase a small acreage or to claim a homestead, he establishes communion with nature and leads a life more attractive and more satisfying to his innate desire to live in the open. It is rare indeed to discover an immigrant Finn, fresh from the rigors of his native out-of-doors, who finds the slightest contentment in the larger cities. Only the necessity for ready money keeps him for a while in the factories. After accumulating some funds he begins payment on a small tract of land and in the course of a few years builds up a sufficient reserve to permit him to leave his factory employment and make the farm his permanent home and source of income.

The Finn upon his arrival in the United States migrates usually either to Massachusetts, or to northern Minnesota, Wisconsin, or Michigan. Not equipped with the English language and without funds, his first concern has been to obtain employment which will immediately return cash. In the Lake Superior district

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* By "Rural" is meant communities of less than 2,500 inhabitants.

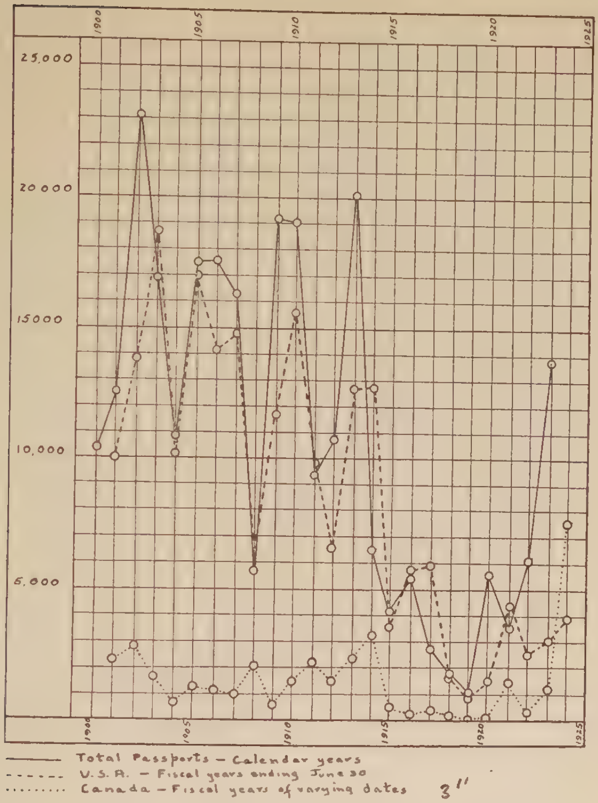
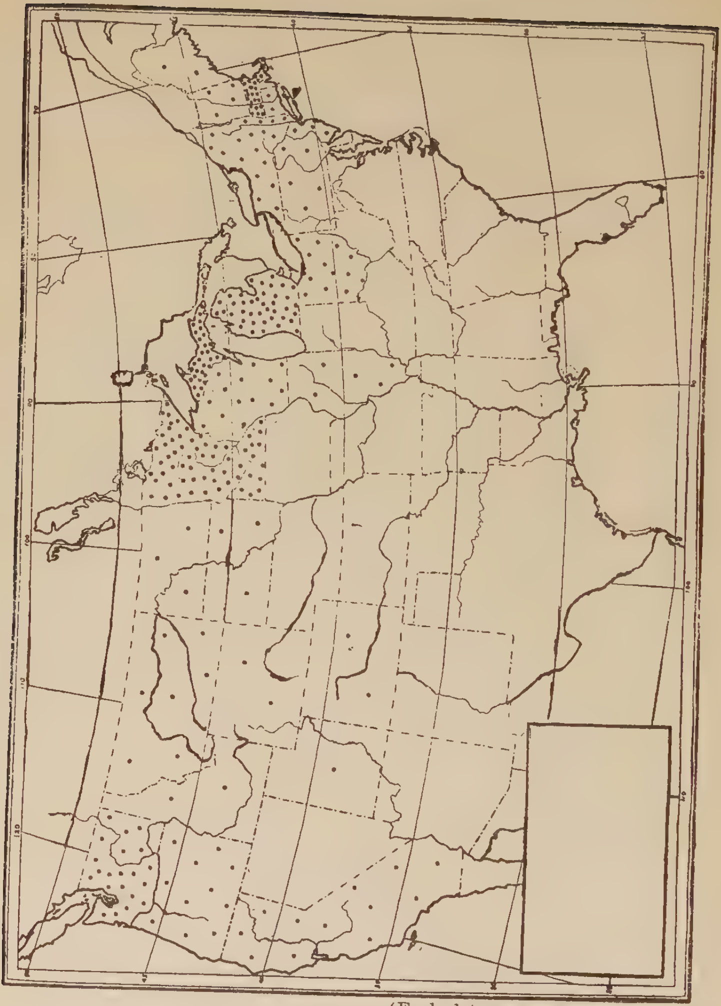


FIG. 27. EMIGRATION FROM FINLAND

The data here are not all comparable in every detail because of differences in the respective countries in dates of records and the fact that applicants for passports in some instances do not use them, or use them many months after their issuance. This delayed use, causing an accumulation of migrants in some years, accounts for the apparent inconsistency now and then, of more immigrants in the United States than the total of passports issued in Finland.



(Each dot represents 1000 Finns)

FIG. 28. THE FINN IN THE UNITED STATES
Native and Foreign Born

he has worked in the iron or copper mines or in the forests as a lumberjack, and in New England as a quarryman, lumberjack, or factory hand. In all of these occupations his employers praise him as a worker of the highest efficiency. In the underground mines the Finns make good timbermen where they are "clever and ingenious with axe and log." The technique of woodcutting was evolved by age-long experience of their ancestors and handed down by example. Their struggle with nature has developed much manual dexterity, which the younger immigrant Finns show in their proficiency in handling drills and other mining machinery. In the mills of the East the Finn displays the same remarkable energy and mechanical ability as in the west; this is conspicuous in the chair factories. He excels workmen of other nationalities in certain types of reed-weaving — again an application of home training.

In both west and east the Finn ranks first among all nationalities in logging operations. His knowledge of the forest, his unequaled physical endurance in regions where snows pile high and temperatures sag to -15°F and -30°F, and his sense of responsibility make him the unsurpassed lumberjack. His rigorous training in "the land of a thousand lakes" and a land of as many hardships stand him in good stead.

While engaged in this heavy work he never loses sight of his ultimate objective, namely, to become an independent farmer. As much as possible of his wages he invests in land accessible over the week-end, whither he goes every Saturday to improve it for eventual permanent occupation. Employers have complained that he may take an extra Friday or Monday to work upon his land, thus interfering with factory schedules.

The Finn's holding ranges from just a few acres to a quarter section. It may be heavily timbered with tall, thin spruce and tamarack, or birch with its dense underbrush; or it may have only a scrubby second growth, or stumps left by lumber companies that have logged off the desirable timber. The land usually has some swamp or muskeg, as it is called in northeastern Minnesota, but is sufficiently high to make drainage easy. It may have a generous distribution of glacial boulders of all sizes. Climatically, the regions duplicate central and southern Finland and the vegetation likewise corresponds. In the words of the Finn, the region is "just like home."

In this setting the immigrant begins his struggle to farm successfully. From this point forward his life parallels that in his home land, except that the economic conditions in his new environment are somewhat better than those at home. Before 1918 the political situation, too, was better in America than in Finland.

The Finn builds a little single-room or two-room tarpapered shack near the edge of his land where the drainage is good. He clears about an acre the first summer, and when winter interrupts his work he goes to the woods as a lumberjack to earn a little ready money. The next spring he returns to his farm to continue improvements. Should he run short of funds before the following winter, he may work for a few weeks as a common laborer on country or town roads.

Clearing a few hundred square feet of land as soon as possible, he plants potatoes or rutabagas or both. He builds a cow barn and buys a cow. "Where there's a Finn, there's a cow," is almost axiomatic. Another year passes and he adds a few chickens; and now with garden, cow, and poultry this pioneer has assured himself of a food supply and starts along the road to independence.

In the evolution of the farm the construction of buildings plays an important part. A Finnish farm is identified from a distance by the number of its buildings. The owner's first tar-paper shack, his later log cabin, his recent modern dwelling, his inevitable bathhouse, a cow barn, perhaps the old one and the new one with its glacial-boulder foundation, a horse barn, a root cellar, several hay barns scattered over the fields, a tool house, a woodshed, and other special structures.

But even in the presence of so many buildings the farm may be recognized as Finnish by its oddly-built hay barn. The sides slope inward toward the floor and are constructed of logs spaced several inches apart. The flooring, raised from the ground a foot or two, is likewise made of spaced logs. Such construction allows air to circulate freely through the hay, keeping it dry and hastening the curing process. The steeply sloping roof of solid boards projects well beyond the walls to afford extra protection from the rains and snow. This building with its pentagonal outline can never be mistaken for anything but a Finnish farm building.

After the Finn has insured himself against the most critical of future hazards, he proceeds with the development of his whole plot of land. The cutting of timber, grubbing of underbrush and roots, dynamiting of stumps, gathering of boulders from all parts of the land, and the draining of the wet places follow in succession. Deliberate and determined, rarely discouraged, he works on with the conviction that some day his land will be entirely cleared and developed.

The Finnish immigrant makes an ideal pioneer, a valiant blazer of the trail. Whatever the length of time that must elapse before success crowns his efforts, the fact that a Finn is developing the land is always reassuring. To a farmer of the corn belt these northern lands seem almost hopeless; but to the Finn where there is land there is hope. His struggle through the many generations has taught him to keep at the problem until it is solved, if solution there be; and he is thankful for every little gain. When his farm has reached maturity he confines his efforts largely to producing such crops as hay, potatoes, rutabagas, and minor quantities of rye, oats, and barley. He builds up a small herd of cows, oftentimes devoting all his energies to the development of a dairy farm. A few horses, and perhaps later an automobile, complete his establishment.

As a settler and citizen the Finn reveals the same characteristics in America as he developed in his old home. He continues to be a persevering, tenacious, and courageous individual. He is often stolid and phlegmatic; but, when opposed by some one or some idea not to his liking, he becomes thoroughly aroused.

The Finn appreciates education here as well as in Finland. In some districts he is "the backbone of the night school" and his children rank second to none in their day school. Omnivorous readers, the Finns support an extensive and diverse press. One may count 29 periodical publications, including four yearbooks. The habit of reading encouraged in Finland both by the church and by the need for some mental relaxation during the long dark winter is preserved in this country and further stimulated by contact with the school system and the public library.

The appetite for education and the high state of intelligence among the Finns have strangely enough not always served to improve their hygienic conditions. Their homes from log cabin to modern city dwelling and their business establishments as well are immaculately clean; but, with a few exceptions, lack proper ventilation and therefore contribute to an abnormally high death rate. Furthermore, the belief is still common among many of the older Finns that diseases are not contagious but sent by the will of God. A similar apathy regarding ventilation is shown in the management of their barns, and as a consequence diseases among their livestock are all too common. In partial explanation of this attitude toward ventilation, it should be recalled that in Finland as well as in northern United States, winters are long and cold, and fuel, excepting wood, costly. Under these circumstances, conservation of heat as a matter of economy has undoubtedly contributed to the sealing of the log-cabin windows and doors. Besides, as a result of long isolation, ignorance of medicine has readily established credence in the theory that disease is not communicable and that it is incurable unless the steam bath is effective in combating it. The institution of the bath clings tenaciously to the Finn even after years of residence in America. The faith of centuries cannot be broken in a single generation, and therefore the immigrant's failure to reform at once can be understood. Teaching the principles of hygiene and sanitation to the Finnish children in the modern rural and city schools is proving an effective agency for the betterment of home conditions. The rising generation will not acquire the faults of the older people.

Politically, the Finns in this country may be grouped into two classes, the Socialists and the Temperance or Progressive party. Nearly 25 per cent of the Finns in America belong to the Socialist party. The Socialists are divided into two classes; the Reds, who advocate force to accomplish an end; and the Yellows, who oppose force and foster legislation as the best means for attaining a purpose. But why should the principles of radical Socialism have found such fertile soil among the Finns? A partial answer may be found in the peculiar geographic setting of these peoples.

In Finland where the soil is difficult to work, where the climate makes harvests an uncertainty, and where isolation upon a remote farm tends to depress one's outlook upon life, the Finn has acquired an attitude of mind receptive to invitations to migrate to any other land which appears to offer even slight improvement in living conditions. In pre-war days, added to these conditions, was the oppression of an autocratic Russian rule which cultivated in him a spirit of resentment toward centralized power and a willingness to accept almost any conditions in any land which promised an easier life. Accordingly, when many Finns arrived in the United States in this frame of mind and were received by agents of radical political parties who informed them about "free" America and advised them to ignore the laws and to join the radical group, these Finns followed their advice and unwittingly got the wrong start in the land of their new home. Hundreds of these men thus led astray have followed the new leadership but for a brief period, for such radicalism as they possessed did not represent an antipathy toward law and order but merely a protest against the terrific struggle for existence of the old Russian days. That this assertion is valid is demonstrated by the fact that when the Finn has established himself upon the land and has had an opportunity to enjoy independence his radicalism not only disappears but changes to conservatism. Hard work alone does not discourage a Finn; he accepts even discouraging conditions with a good deal of optimism, provided he knows that the opportunity to realize independence is his.

The settlement of Finns in the northern tier of states can be traced to the similarity of the physical conditions of these regions to those in Finland. Man seems to be a creature of his native environment, however discouraging it may be; and in the instance of the Finn the evidence is convincing. Inquiries among the Finns as to the reasons for their locating in those parts of the United States where the struggle is so severe when they might have selected areas offering easier and better opportunities invariably elicit the response that climatic similarity to the home land, or soil correspondence, or the general "home-like" landscape, or combinations of these characteristics were the determining factors. Love for the deep snow, admiration for glacial lakes set among dense evergreen forests, vistas across lake-dotted lands and boulder-strewn inter-lake areas are noted time and again by the Finnish settlers as reasons critical in their choice of the northlands.

Attempts to colonize in the southern parts of the United States have never been a success. Settlements in Texas, Louisiana, and Georgia have been tried but all have met with failure. The argument of a two-crop year, while often a lure to the hopeful Finn, has never been sufficiently strong to offset the absence of a northern winter with its snows and thick ice or a summer with its cool nights and its long days.

Finns who have tried life in the beautiful Puget Sound District have frequently returned to the Upper Great Lakes Region or New England. The numbers of those who have settled on the Pacific slope exceed those in the south, but they are still relatively small. Those who have remained in the west have engaged in lumbering, mining, or fishing industries, often shifting from one to another when higher wages have proved a magnet; but even here the power of attraction weakens after a few years and many begin the return trek.

Nearly every attempt permanently to leave the Lake Superior region or New England has met with failure. Where the non-geographic attractions have drawn these people away from these districts, the geographic factor has called them back. Clannishness, in instances, has played its rôle in concentrating settlements but only as affecting groups. Rivalry bordering upon jealousy among the Finns weakens the clan, and hence it possesses neither the power nor the influence of the small group or the individual. In spite of these non-geographic influences, over 75 per cent of the Finns are still located in the extreme northern parts of the United States after seventy years of active settlement.

The Finn in Finland and the Finn in America present both similarities and contrasts. These have been discussed in the light of geographic conditions, or the conditions of their natural environment. The statements of fact and their interpretation are offered as evidence to support the assertion that the physical environment has been the prime factor shaping the activities of the Finnish people both in their native land and in the United States.

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